# MacComCenter™

fax and data communications

MacComCenter™
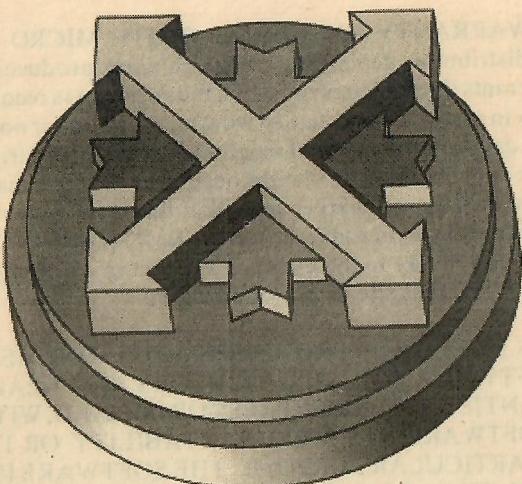
User's Guide

Documentation Revision 1

Smith Micro
Software Inc.
communicating solutions

NOTICE

Read me first

Go over these three important points before running MacComCenter. Place a check in each box as you complete the step.

❑ **Fax/Modem Type**
Follow the installation instructions in Chapter 1 carefully. In particular, be sure to configure MacComCenter for your type of fax/modem. We recommend you take advantage of MacComCenter's auto detection feature to find the fax/modem type automatically. For questions about the class type of your particular modem please refer to your fax/modem manufacturer's user's guide.

❑ **Default Settings**
MacComCenter is designed to let you start sending and receiving faxes and uploading and downloading files immediately upon installation on your system. Before you begin, it is recommended that you review the MacComCenter settings and compare these settings with your fax/modem manufacturer's default specifications. Verify that the modem settings are correct for your particular fax/modem requirements. A few minutes of your time will ensure that you get the most out of MacComCenter.

❑ **Keyboard Shortcuts**
The MacComCenter User's Guide uses certain conventions that describe specific keyboard shortcuts. A keyboard shortcut is a single keystroke or a combination of keystrokes that execute a command. For example, the keyboard shortcut, ⌘-N, provides the same result as choosing **New...**, located under the **File** Menu.

User's Guide Contents

This User's Guide contains all the information needed to install, configure, use, and troubleshoot MacComCenter. This guide is divided into four parts:

- **Part 1** — provides installation instructions and an overview of MacComCenter.

- **Part 2** — describes MacComCenter's Faxing capabilities.

- **Part 3** — describes MacComCenter's Data communication capabilities.

- **Part 4** — consists of 5 appendices and the Index.

The following summary describes the contents of this User's guide:

Part 1 — Overview

Introduction: MacComCenter features.

Chapter 1: Installing MacComCenter provides the minimum hardware requirements needed to use MacComCenter on your computer. It provides step-by-step instructions for installing MacComCenter and lists the default settings that take effect when MacComCenter is installed.

Chapter 2: Getting Started describes how to send and receive faxes with MacComCenter as well as how to utilize the on-line help facilities.

Part 2 — Fax Operation

Chapter 3: Viewing and Printing Faxes describes how to view using **QuickView** and how to print faxes.

Chapter 4: Advanced Faxing describes advanced configuration options, the fax phone list, and broadcasting, in addition to describing the **Fax Manager**.

Part 3 — Data Communication Operation

Chapter 5:   Data Communication Overview describes how to log-on to a remote system, upload and download files, use data phone lists, configuration and setup, and other aspects of data communications.

Chapter 6:   Automation describes the various ways to automate the repetitive processes of data communications, including the use of macro keys, scripts, the scripting language, and automatic on-line service log-in.

Part 4 — Appendices and Index

Appendix A: Scripting Commands describes the commands used to perform script functions.

Appendix B: Terminal Emulation Keys describes the keys applicable to various terminal emulations.

Appendix C: ASCII Character Table lists the complete set of ASCII characters.

Appendix D: AT Command Set Summary provides an abbreviated list of AT commands.

Appendix E: Troubleshooting describes problems that may arise in your communications system and how to resolve them.

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Introduction

Welcome to MacComCenter. What is MacComCenter? MacComCenter is a communications software package that controls the exchange of information between your fax/modem and a remote modem, fax/modem, or facsimile machine at the other end of the telephone line. MacComCenter represents the latest technology in fax and data communications software design and fully conforms to the standard Apple Macintosh User Interface.

MacComCenter allows you to utilize all of the features of your modem or fax/modem. MacComCenter will operate with all AT command set (Hayes) compatible modems as well as most other modems that are not compatible with the AT command set. The fax mode of MacComCenter is designed to be used with either EIA Class 1, 2 or 2.0 compatible fax/modems.

Unpacking your components

MacComCenter comes on a standard Apple 800K 3.5 inch diskette. If the diskette is missing or damaged, please contact your place of purchase immediately. Along with the diskette is this MacComCenter User's Guide.

Before you install the MacComCenter diskette, please read the accompanying License Agreement. Installing the diskette means you have agreed to all terms and conditions in the License Agreement.

Features

This section briefly describes the general fax and data communications features that MacComCenter provides.

General features

Complete Apple Macintosh User Interface. MacComCenter uses standard pull down menus, windows, and mouse control, so all features are only a familiar click away.

ToolBar. Many of MacComCenter's features are accessible through the **ToolBar**, making most commands only a mouse click away.

On-line Help. You can never get lost when using MacComCenter; help is always available on-line by accessing **About MacComCenter...**, located under the **Apple** Menu.

Finder-like interface. MacComCenter provides you with a Finder-like interface to the fax and data phone lists, Send and Receive Fax Logs, fax archive, and the MCC Fax Scheduler through the use of Drag-and-Drop. You can drag an entry from one of these windows and drop it onto a button in the window's **ToolBar** to perform the appropriate action. Double-clicking on an entry will also perform an appropriate action. You can also select multiple entries by using "shift-click" selection *or* region selection. To shift-click select, hold down the shift key and click on entries you wish to select. To de-select an item just shift-click the undesired selected entry. Region selecting is performed by clicking and holding the mouse down while dragging the selection rectangle through the desired entries.

Fax features

The following section describes some of the fax features provided in MacComCenter. For additional information, please refer to Chapters 3-4 in this User's Guide.

Foreground and Background Fax Capability. In the foreground, you can manually send and receive faxes. In the background, you can send and receive faxes while you use your computer for other applications.

Sending Faxes. Faxes can be sent using any Macintosh application that has printing capabilities, which means that faxes can be sent from most Macintosh word processors, database managers, spreadsheets, or planner programs. Faxes can be sent immediately or at scheduled times, when telephone line charges are at their lowest or when you are certain that the remote facsimile machine or fax/modem will be accessible. You can even broadcast your faxes to multiple recipients when several recipients are to receive identical faxes.

WYSIWYG Faxing. Faxes sent out use the same fonts, layout, and graphics as the original document. As a result, you can create faxes that consist of high quality fonts and graphics.

Cover Page. MacComCenter allows you to include a cover page with your faxes. Your cover page can include graphics that have been scanned into your computer or created in your favorite drawing and paint programs as well as any desired text.

Printing Received Faxes. If you prefer a hard copy of a fax, MacComCenter's **QuickView** can be used to send faxes to your printer. Any Macintosh supported printer (dot matrix, Laserwriter, or PostScript printer) can print faxes.

Fax Phone List. Multiple fax phone lists can be maintained for sending faxes to frequently dialed telephone numbers. Characters can be assigned to groups, so that a fax can be easily sent to any number of fax machines with just a few keystrokes.

Data Communication features

The following section describes some of the telecommunication features that MacComCenter provides. For additional information, please refer to Chapters 5-6 in this User's Guide.

File Transfers. MacComCenter allows for transferring files to and from remote computers.

Transfer Protocols. For your convenience, MacComCenter provides eight transfer protocols: ASCII, Kermit, Xmodem (CRC), Xmodem 1K, Ymodem, Ymodem-G, and CompuServe B/B+.

Terminal Emulators. Five terminal emulators are provided: ANSI, TTY, VT52, VT100, and VT102.

Complete Scripting Language. This feature allows you to write miniature programs, so that logging on to host computers can be done automatically with little, if any, keyboard input.

Easy Access to Popular On-line Services. MacComCenter automates the log-on sequence for popular services such as CompuServe, Dow Jones, and GEnie.

Chapter 1
Installing MacComCenter

Chapter 1 describes the requirements needed to install MacComCenter, provides step-by-step instructions for installation, and walks through running the program for the first time.

Minimum system requirements

To use MacComCenter on your Apple Macintosh computer, you must have the following **minimum** system requirements:

- Hard disk based Apple Macintosh Plus or newer, running System 6.0.5 or later

- 2 MB of RAM.

- EIA Class 1, 2 or 2.0 standard fax/modem

- MultiFinder - **STRONGLY RECOMMENDED**

Installation Instructions

1. Place the MacComCenter 3.5 inch diskette into the floppy drive.

2. The MacComCenter disk will appear on the desktop and the MacComCenter window will appear. To install MacComCenter double-click on the **Installer** icon.
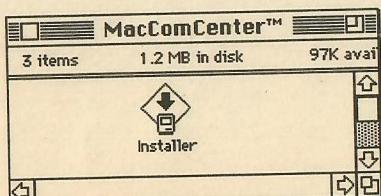
3. After a few moments a dialog will appear prompting you for your modem port to use and fax/modem class type. If desired, MacComCenter can automatically detect which type of fax/ modem you are using.

Select your type of fax/modem with this pop-up menu

Enter the port you wish to use your fax/modem on with this pop-up menu

Please connect your Fax/Modem to the desired port, turn on the power, and select the port which your Fax/Modem is connected to. Select Auto Detect to have MacComCenter™ decide which software to install.

Type: **Auto Detect Modem Type**

Port: **Modem Port**

Install

Quit

☞ **NOTE:** *If you choose Auto Detect Modem Type, ensure that your fax / modem is turned on and is connected to a port in the back of your Macintosh.*

If you are unsure about your fax/modem type please refer to your fax/modem manufacturer's user's guide for this information or you can choose Auto Detect Modem Type and allow MacComCenter to automatically detect the type of modem you are using.

Type: • **Auto Detect Modem Type**

   Class 1 Fax/Modem
   Class 2 Fax/Modem
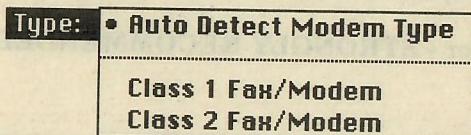
4. After you have made your selections, MacComCenter will review your choices and allow you to continue or change any of your selections. You can click on Install to continue with the selected options, Switch Disk to select another drive, Customize to change options or Quit to cancel the install.

```
┌─────────────────────────────────────────────────────────┐
│ Easy Install                                            │
│ ┌─────────────────────────────────────────────────────┐ │
│ │ Please click the install button to install MacComCenter™ │ │
│ │    • System 7                                        │ │
│ │    • Class 1 Fax/Modem              ┌──────────┐     │ │
│ │                                     │  Install │     │ │
│ │ on the hard disk named              └──────────┘     │ │
│ │  ⊂⊃ MD80                                              │ │
│ │                                                       │ │
│ │                                    ┌────────────┐     │ │
│ │                                    │ Eject Disk │     │ │
│ │                                    └────────────┘     │ │
│ │                                    ┌────────────┐     │ │
│ │                                    │ Switch Disk│     │ │
│ │                                    └────────────┘     │ │
│ │                                    ┌────────────┐     │ │
│ │                                    │ Customize  │     │ │
│ │                                    └────────────┘     │ │
│ │      ┌──────────┐                  ┌────────────┐     │ │
│ │ 3.2  │   Help   │                  │    Quit    │     │ │
│ │      └──────────┘                  └────────────┘     │ │
│ └─────────────────────────────────────────────────────┘ │
└─────────────────────────────────────────────────────────┘
```
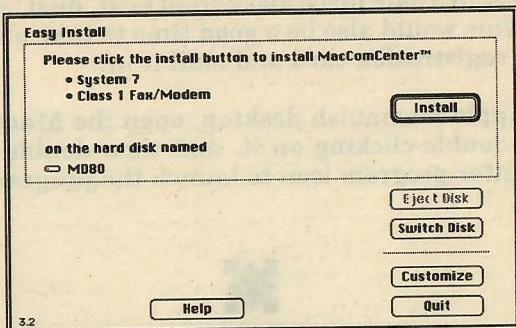
5. When you continue to install MacComCenter, the Installer will place all files and folders necessary to run MacComCenter on your hard drive into the MacComCenter Folder and the System folder as needed. The Installer will install all INITs and Desk Accessory files automatically allowing you to receive faxes in the background while you use your computer for other applications.

6. After installation is complete, you will be prompted to restart your computer. This step will initialize all files that the **Installer** copied to your system.

```
┌─────────────────────────────────────────────────────────┐
│  ┌──┐    Installation on the active startup disk        │
│  │≡≡│    "MD80" was successful. You must now             │
│  └──┘    restart your Macintosh to use your new          │
│          software.                                       │
│                                                          │
│                              ┌──────────────┐            │
│                              │   Restart    │            │
│                              └──────────────┘            │
└─────────────────────────────────────────────────────────┘
```
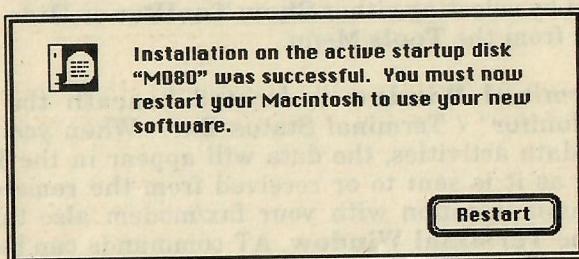
7. After your Macintosh has been restarted, the **MacComCenter Folder** will appear on the specified drive. Included in the **MacComCenter Folder** you will find an icon labeled **ReadMe!**, which contains ReadMe! important information and any last minute changes. We recommend that you read it by double-clicking on the **ReadMe!** icon.

8. Remove the MacComCenter diskette from the floppy drive and put it in a safe place away from heat, dust, and magnetic fields. This would also be a good time to take a minute to fill out the registration card and mail it in.

From the Apple Macintosh desktop, open the **MacComCenter Folder** by double-clicking on it, and then double-click on the MacComCenter program icon to launch the program.

MacComCenter™

Elements of the Main Screen

When you start MacComCenter, the main screen appears.

The **Menu Bar** consists of pull down menus which contain all of MacComCenter's commands; they can be accessed with the mouse.

The **ToolBar** provides quick access to MacComCenter's most frequently used commands. The **ToolBar** is a window which, when displayed, will float on top of all other windows. The **ToolBar** may be hidden or displayed by selecting either **Show ToolBar** or **Hide ToolBar** from the **Tools** Menu.
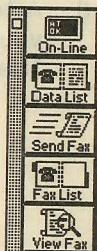
The **Terminal Window** is located beneath the ModemMonitor™ / Terminal Status Bar. When you perform data activities, the data will appear in the **Terminal Window** as it is sent to or received from the remote modem. Direct communication with your fax/modem also takes place within the **Terminal Window**, AT commands can be typed in directly and the modem responses can be read. For example, the *Initialization string* is an AT command. The modem response to the initialization string is the *OK*, directly beneath it. To the right of the **Terminal Window** is a scroll bar, which allows for reviewing data that has scrolled up beyond the top of the **Terminal Window**.

The Terminal Status Bar displays the
terminal emulator, line settings, flow control
and messages about current activities

The ModemMonitor provides
modem status lights

```
┌─────────────────── Terminal Window ──────────────────┐
│ ●●●●●●●●● │ANSI│ 2400-8-N-1 │ No Flow │                │
│ FX HS AA OH RX TX TR MR CS                            │
│ ▌                                                   ⬆ │
│                                                       │
│                                                       │
│                                                       │
│                                                       │
│                                                     ⬇ │
│ ⬅➡                                                  ⬇ │
└───────────────────────────────────────────────────────┘
```
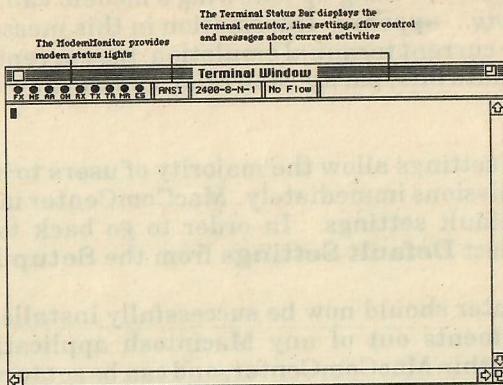
The **ModemMonitor** runs along the top of the **Terminal Window**. The ModemMonitor is used in the same way status lights are used on an external modem. The ModemMonitor is a set of modem status lights on the **Terminal Window**. These status lights allow the user to be aware of the current modem status. There are 9 modem status lights visible in the ModemMonitor. which indicate the following:

FX: **Fax Connection** - The incoming or outgoing call is a fax.

HS: **High Speed** - The established connection is at 9600 baud or higher.

AA: **Auto Answer** - Flashes whenever a RING is detected by the modem.

OH: **Off Hook** - The modem has picked up the telephone line.

RX: **Receive Data** - The modem is receiving characters or data.

TX: **Transmit Data** - The modem is transmitting characters or data out.

TR: **Terminal Ready** - The modem/computer is ready to send and receive commands.

MR: **Modem Ready** - The modem is powered up.

CS: **Clear to Send** - The modem is ready to receive more data.

The **Terminal Status Bar** located to the right of the ModemMonitor provides you with a display of important communications settings and messages about current activities.

For example, if you hang up following a modem call, the message *Disconnecting...* appears. Information in this message area also displays the current terminal emulation, the current line settings (baud rate, data bits, parity, stop bits), and the flow control being used.

The default settings allow the majority of users to begin fax and data transmissions immediately. MacComCenter initially comes with the default settings. In order to go back to the default settings, select **Default Settings** from the **Setup** Menu.

MacComCenter should now be successfully installed and set for faxing documents out of any Macintosh application, sending faxes from within MacComCenter, and can be set to receive faxes. The following chapter gets you started faxing.

Chapter 2
Getting Started

Chapter 2 describes how to begin using **MacComCenter**. It describes how to send a fax from a Macintosh application, from within the **MacComCenter** application, and how to receive a fax. It also describes the on-line help facilities as well. The commands for faxing are found in the **Fax** Menu.

```
┌─────────────────────────────────┐
│ Fax                             │
├─────────────────────────────────┤
│ Send Fax...              ⌘F     │
│ QuickFax...                     │
├─────────────────────────────────┤
│ View Fax...                     │
│ View Schedule                   │
│ View Send Log                   │
│ View Receive Log                │
├─────────────────────────────────┤
│ Fax Archive                     │
├─────────────────────────────────┤
│ Enable Fax Receiving            │
├─────────────────────────────────┤
│ Convert Documents               │
└─────────────────────────────────┘
```

Sending a Fax From a Macintosh Application

The most convenient way to send a fax is directly from your Macintosh applications. The benefits of sending out faxes in this manner are that there is no need to interrupt your work to send a fax, and all of your fonts, graphics, and formatting will be automatically incorporated. It's as simple as switching from printing to your normal printer to printing to the **MCC Fax Print** driver. Switching can be accomplished via Hot Keys that are configured from the **Hot Key Setup** section.

This process is simple. When **MacComCenter** is installed, it installs a printer driver that is available from the Chooser, called **MCC Fax Print**. When you print to this printer driver, your document is converted into a faxable format, the **Fax Manager** activates, the fax/modem picks up the phone line, dials, and sends out the fax.

MCC Fax Print

Example: Faxing the ReadMe! file from QuickView

Follow these steps for faxing a file from a Macintosh application. In this example, the Macintosh application is **QuickView**. This example applies to other Macintosh applications and their documents as well.

1. Double-click on the ReadMe! icon in the MacComCenter Fax Folder.

The text file will open in **QuickView** displaying the ReadMe! text.

2. Go into the Chooser and select MCC Fax Print.

This will change your default printer driver to MCC Fax Print. Close the Chooser and go back into the QuickView application.

3. Pull down the **File** Menu and choose **MCC Fax Page Setup**...

The MCC Fax Page Setup sets up the following attributes for sending a fax through MCC Fax Print: compatible or exact bitmap, paper size, orientation, fax resolution, and scaling factor. After you have chosen the desired attributes, click OK.

MacComCenter Page Setup		v 1.0	
● Compatible	Paper: ● US Letter		OK
○ Exact Bitmap	○ US Legal	Orientation	Cancel
	○ A4 Letter		
☐ High Resolution	Scale: 100 %		
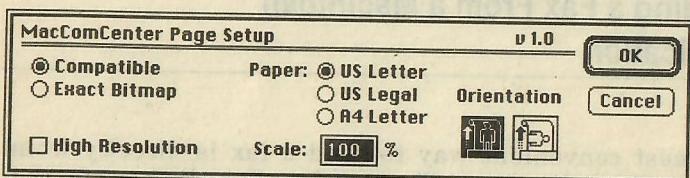
4. Select MCC Fax Print... from the **File** Menu.

The MCC Fax Print dialog will appear. From here you can enter the destination fax number, name, attention and note fields. You can also choose to see a preview of the fax, save the fax as a fax file, view a fax phone list, or schedule the fax for a later time.

```
┌─────────────────────────────────────────────────────────┐
│ MacComCenter Fax Print™                    ┌──────────┐  │
│                                            │   Send   │  │
│  Page Range: ◉ All ○ From: [   ] To: [  ]  ⊠ Send Fax  └──────────┘  │
│     □ Include cover page    □ View Pages   □ Save Fax  ┌──────────┐  │
│                                                        │  Cancel  │  │
│  Dialed Fax #: [                              ]        └──────────┘  │
│          To: [                              ]                        │
│    Attention: [                              ]       ┌────────────┐  │
│         Note: [                              ]       │ Phone List │  │
│                                                      └────────────┘  │
│                                                      ┌────────────┐  │
│                                                      │    Add     │  │
│  Send on: Mon, Jan 17, 1994          At: 10:06 AM    └────────────┘  │
│  Date: [ January ][ 17 ][ 1994 ]  Time: [ 10 ]:[ 00 ][ AM ]         │
└─────────────────────────────────────────────────────────┘
```

Use these pop-up menus to specify when
you wish to send the fax. Do not change
these if you want to send the fax now
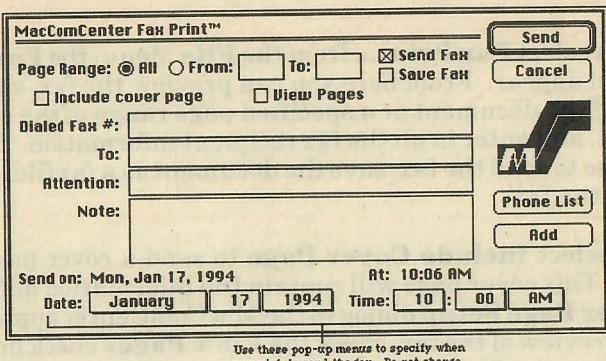
5. Click on Send to send the fax.

A window will appear displaying the conversion status of the
ReadMe! file from a TEXT file to a fax file.

6. Launch the Fax Controller from the Apple Menu.

The **Fax Controller** will give you status information on your fax
and will also allow you to cancel the send. The **Fax Controller**
will be launched on a fax send if you have the **Launch Fax
Controller** check box checked in the **Fax Setup** dialog.

Hot Keys

MacComCenter gives you the ability to define Hot Keys which
allows you to quickly select the **MCC Fax Print** driver. To
configure your Hot Keys, go into the **Setup** Menu and select
Fax... When the **MCC Fax Print** driver is selected and you go
to send a fax through the **File** Menu, the Printing items will
change from "Print..." to "Fax Print..." and "Page Setup..." will
change to "Fax Page Setup..." (see Chapter 4 for more information).

MCC Fax Print dialog

When you select **Fax Print...** from the **File** Menu, the **Fax Print** dialog will appear. From here you can preview the fax, choose to send all of the document or a specified page range of the selected document, and enter in all the fax recipient information. You can also choose to send the fax, save the document as a fax file, or send and save the fax.

You can select **Include Cover Page** to send a cover page with your fax. This cover page will contain the information defined in **Fax Cover Page Setup** dialog in the MacComCenter application. To see a preview of the fax, check the **View Pages** check box. You can also save the file as a fax file by checking the **Save Fax** check box. A file selection dialog will appear. Here you choose the name that you want to save the fax file as.

The middle portion of the dialog allows you to enter the *phone number* and the *name* of the fax recipient. You may also add *attention* information and any *note* to appear on the fax. Click on the **Phone List** button if you want to choose a number from a fax phone list, or click on **Add** if you wish to add the current name and number to the fax phone list. Beneath the note information field, you may choose to schedule the time for the transmission of the fax. Adjust the time you want the fax to be sent or select **Send** if you want to send the fax immediately. Fill out this dialog with the information needed to send out a fax, and click on the **Send** button when the information is correct. When **Send** is clicked a window will appear displaying the status of converting the document to a faxable form. A message window will inform you that the file is being printed and the cursor will change from a arrow to a scrolling fax page. You can view the status of the sending fax by launching the **Fax Controller** from the **Apple** Menu or the **Tools** Menu. The **Fax Controller** displays the status of the fax, and alerts you when the fax is finished, or if there is an error. The fax will be sent in the background. **MCC Fax Print** works as though you had simply printed to a normal printer.

Sending a Fax From MacComCenter

While faxing directly out of your application is probably the most convenient way to fax a document, there are instances when faxing out from the MacComCenter application makes sense, such as when you want to quickly fax out a TEXT file, PICT, MacPaint or TIFF file, or any pre-converted fax, previously received fax or a QuickFax.

Example: Faxing the ReadMe! file from MacComCenter

1. Launch the MacComCenter application.

2. Pull down the **Fax** Menu and choose **Send Fax**.

A batch file selection box will appear. Select the **ReadMe!** file from within the **MacComCenter Folder** and click the **Add** button. It is possible to send more than one file as a fax, but for this example just select the **ReadMe!** file. A window will appear displaying the conversion status of the **ReadMe!** file from a TEXT file to a fax file. The **Send Fax Information** dialog will appear.

```
┌─────────────────────────────────────────────────────┐
│  🖴 Build Files                                       │
│  ┌─────────────────┐                Files selected:  │
│  │ 🖴 Mac Disks   ⇧ │   ┌──────────┐  ┌────────────┐ │
│  │ 📁 Old CUSTOM resource │ >> Add >> │  │          ⇧ │ │
│  │                 │   └──────────┘  │            │ │
│  │                 │   ┌──────────┐  │            │ │
│  │                 │   │<<Remove<<│  │            │ │
│  │                 │   └──────────┘  │            │ │
│  │                 │   ┌──────────┐  │            │ │
│  │                 │   │   Send   │  │            │ │
│  │                 │   └──────────┘  │            │ │
│  │               ⇩ │   ┌──────────┐  │          ⇩ │ │
│  └─────────────────┘   │  Cancel  │  └────────────┘ │
│     ⌷ Q.C. HD          └──────────┘                  │
│  ┌──────┐ ┌──────┐                                   │
│  │ Drive│ │ Eject│          Number of files: 0       │
│  └──────┘ └──────┘                                   │
└─────────────────────────────────────────────────────┘
```

3. Enter the destination fax phone number, name, attention and note fields.

```
┌─────────────────────────────────────────────────────────┐
│                    Send Fax Information                   │
│                                                           │
│   Dialed Fax #: [                    ]    ┌──────────┐    │
│                                           │   Send   │    │
│           To:  [                    ]     └──────────┘    │
│                                           ┌──────────┐    │
│      Attention: [                   ]     │  Cancel  │    │
│                                           └──────────┘    │
│                                           ┌──────────┐    │
│                 ┌─────────────────┐       │Phone List│    │
│          Note:  │                 │       └──────────┘    │
│                 │                 │       ┌──────────┐    │
│                 │                 │       │   Add    │    │
│                 └─────────────────┘       └──────────┘    │
│                                           ┌──────────────┐│
│                                           │ Manual Send  ││
│        Send on: Mon, Jan 17, 1994    At: 10:40 AM         │
│        Date: [ January  ][ 17 ][ 1994 ] Time: [10]:[40][AM]│
│        ☒ Include cover page                               │
└─────────────────────────────────────────────────────────┘
```
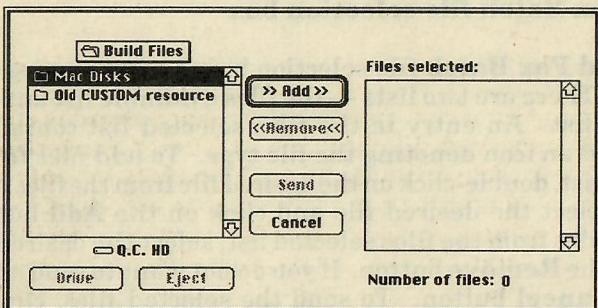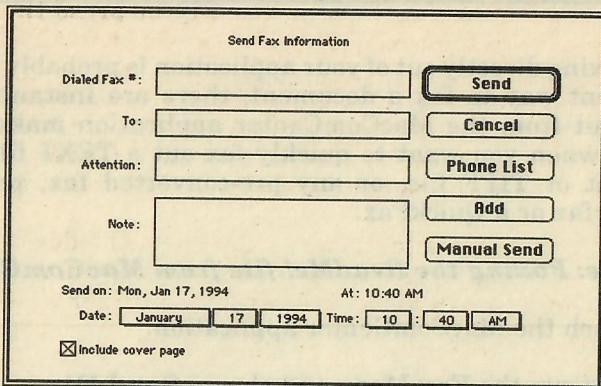
4. Click on Send Fax.

As with the previous example, you can view the status of your fax with the **Fax Controller**.

☞ *NOTE: Sending TEXT files from MacComCenter will cause all font and style formatting to be lost.*

Send Fax Batch file selection box

The **Send Fax Batch** file selection box is where you select files to send. There are two lists — the files available list and the files selected list. An entry in the files selected list contains a file name and an icon denoting the file type. To add files to the files selected list, double-click on the desired file from the files available list *or* select the desired file and click on the **Add** button. To remove files from the files selected list, select the desired file and click on the **Remove** button. If you do not want to send a fax, click on the **Cancel** button. To send the selected files, click on the **Send** button.

Send Fax Information dialog

The **Send Fax Information** dialog is where you enter the destination *fax phone number*, *name*, *attention*, and *note fields*. You can access a fax phone list by clicking on the **Phone List** button. From a fax phone list you can select destinations for the fax files. You can select destinations from a fax phone list in several ways — shift-clicking, region selecting and through the

Mark Group button. When you have made your selections either double-click on a selected entry or press the **Send Fax** button to return to the **Send Fax Information** dialog.

To include a cover page, check the **Include Cover Page** check box. The cover page information is configured in the **Fax Cover Page Setup** dialog. To access the **Fax Cover Page Setup** dialog, go into the **Setup** Menu and select **Fax Cover Page...**

To schedule the fax for a later time, select the desired time from the pop-up menus in the lower portion of the dialog. The **Send Fax Information** dialog is initially set up for sending faxes at the current time.

If you want to manually send the fax, click on the **Manual Send** button. This will instruct you to dial the fax number and when you hear the fax machine pick-up the line, press the **OK** button. If you want to have MacComCenter dial and send the fax, click on the **Send** button.

Sending a QuickFax

Also available from the **Fax Menu** is **QuickFax...** A **QuickFax** is just a fax cover page with a note attached to it. This is extremely convenient when all you want to do is fax someone a quick message or a short note.

To send a **QuickFax**, pull down the **Fax** Menu and choose **QuickFax...** The **QuickFax Information** dialog will display. Fill out the information requested. Click **Send** when you are finished. The MacComCenter dials and sends the fax.

```
                          QuickFax Information
    Dialed Fax #: [                    ]        [   Send   ]
           To: [                    ]           [  Cancel  ]
      Attention: [                    ]         [ Phone List ]
                                                [   Add    ]
          Note: [                    ]
                                                [ Manual Send ]

    Send on: Mon, Jan 17, 1994              At: 10:41 AM
      Date: [ January ][ 17 ][ 1994 ]  Time: [ 10 ]:[ 40 ][ AM ]
```
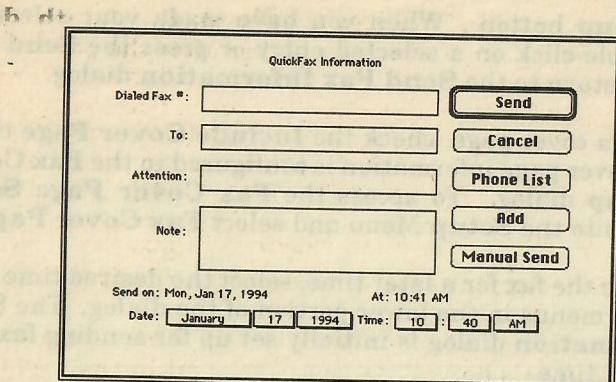
QuickFax Information dialog

The **QuickFax Information** dialog is almost identical to the
Send Fax Information dialog with one exception — there's no
Include Cover Page check box. Since a **QuickFax** is a single
cover page, there's no need to have the **Include Cover Page**
check box. All other information in the dialog functions the same
as the **Send Fax Information** dialog.

Receiving a fax is almost an automatic procedure. To receive a
fax, simply have the **Fax Manager** loaded into memory and **Fax
Receiving** enabled (this is the default). Since the default setting
is enabled to receive faxes, the **Fax Manager** is ready to receive
immediately. The **Fax Manager** is loaded automatically when
the Macintosh starts up. You can configure the **Fax Manager** to
be loaded on startup by checking the **Load Fax Manager** check
box located in the **Fax Manager Setup** dialog in the **Setup**
Menu. From the **Setup** Menu select **Fax...** This will bring up the
Fax Setup dialog. From the **Fax Setup** dialog click on the **Fax
Manager Setup** button. From the **Fax Manager Setup** dialog,
find the **Startup options** section and make sure the **Load Fax
Manager** check box is selected and press **OK**.

☞   **NOTE:** *You must restart your Macintosh in order to utilize
        the Fax Manager if it is not loaded already.*

The **Fax Manager** normally stays in an idle state while awaiting
a call. It switches over to active while answering a call. When a
fax gets received, the call is automatically logged in the **Receive
Fax Log**. The first received fax file is named with the format,

dd/mm/yy#001, where **mm/dd/yy** represents the **month, day, year** the fax was received and the number after the pound sign (#), represents the current number of the fax. This number will increase sequentially with each received fax. The received fax file can be viewed or printed at any time once saved to disk. MacComCenter can be configured to automatically alert you upon receipt of an incoming fax. The different ways MacComCenter can alert you of an incoming fax are by *alert box, a system beep,* or *displaying an icon in the menu bar*. You set up the receive fax alerts in the **Fax Setup** dialog In the **Receive options** section.

The **Fax Manager**'s default settings will wait for an incoming call and it will be received in the manner just described, automatically launching the **Fax Controller**, if this option is enabled. If the incoming call is not an incoming fax or a remote modem calling, MacComCenter will display a message on screen to inform you a voice call has come through. **Fax Manager** will answer the incoming telephone call unless otherwise configured.

Help is always available in MacComCenter from the **About MacComCenter™** item, located in the **Apple** Menu. The help facility is just waiting to be clicked if you are beginning to get lost or don't know what to do next.
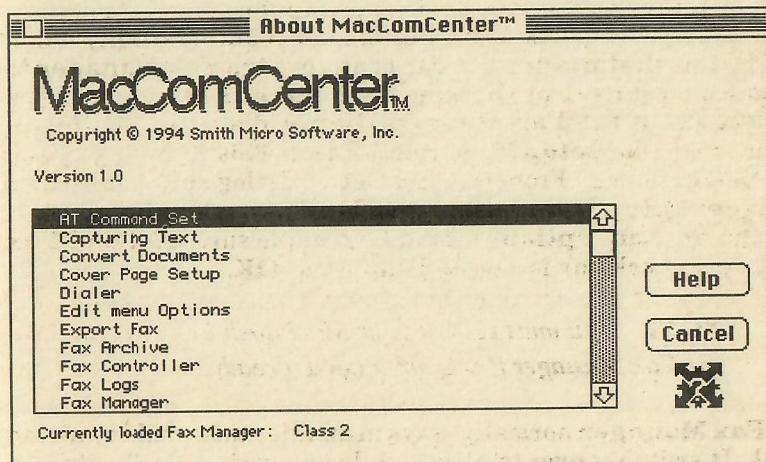
Chapter 3
Viewing and Printing Faxes

There is not much use for a received fax unless we can easily look at it and print it. Chapter 3 describes how to view and print faxes as well as providing a description of fax files and their normal saved locations.

MacComCenter fax files

MacComCenter has a standard naming convention for received faxes and the files in which they are saved. All received fax files are stored in the following format: **dd/mm/yy#001**, where **mm/dd/yy** represents the **month, day, year** the fax was received and where the number after the pound sign (**#**), represents the current number of the fax. This number will increase sequentially with each received fax.

The files created by you to fax out have a different three letter file extension enabling you to easily keep track of which faxes are incoming and which are outgoing. Outgoing fax files have the extension **.Fax**. These files are stored in the **MCC OutBox** if converted using **MCC Fax Print**. If you check **Save Fax Files** in the **MCC Fax Print** dialog you get a file selection box prompting you for a name where to save the fax file.

Viewing faxes

MacComCenter has a separate module used solely for viewing faxes: **QuickView** can be accessed several ways:

1. It can be launched by double-clicking on the **QuickView** icon in the **MacComCenter Folder**.

2. By clicking on the **View Fax** button on the **MacComCenter ToolBar**.

3. From within the MacComCenter application by choosing **Launch QuickView** from the **Tools** Menu.

4. By selecting **View Fax** from the **Fax** Menu.

5. Or by selecting **Open...** from the **File** Menu and selecting a fax file.

Example: Viewing a Fax File

1. Launch QuickView from the MacComCenter **ToolBar**.

Clicking on the **View Fax** button calls up a file selection box. At this point, specific **.Fax** or **dd/mm/yy#001** files can be selected to view.

2. Select a file in the file selection box.

To select one, simply select the folder where the file is located and double-click on the desired file. Choosing **Open...** in **QuickView** will call this same dialog allowing you to select a fax file to view. **QuickView** will launch and the selected file will be opened in a fax viewing window.

You can also edit text documents in **QuickView**. You can create a new text file in **QuickView** from the MacComCenter application by selecting the **New...** item in the **File** Menu and selecting TEXT as the document type. You can also create a new text file in **QuickView** by selecting the **New...** item in the **File** Menu from the **QuickView** application.
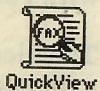
QuickView

QuickView

When the **QuickView** application opens a fax file, the main screen will appear consisting of the following:

- Menu Bar
- Status Bar
- QuickView ToolBar
- Fax Viewer window

When a file loads into **QuickView**, it loads at full size. Immediately above the fax is the **QuickView ToolBar**, which provides easy access to all the fax viewing functions. These functions are also duplicated through the pull down menus if you choose not to use the **QuickView ToolBar**.

The **Menu Bar** consists of pull down menus which contain all of **QuickView**'s commands; they can be accessed with the mouse.

The **Status Line** displays the type of fax being viewed, the current page viewed, total number of pages, the type of view, the resolution, and the zoom factor percentage.

| FileType: Qfax | Page 1 of 2 | Normal | Normal Res | 100% |
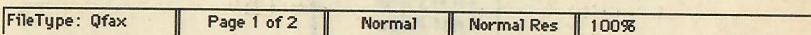
The **ToolBar** provides quick access to **QuickView**'s most frequently used commands. The first three buttons allow you to change the view of the fax. The **Full Size** button displays the fax at its actual size. Notice that since this is the view being used now, the button looks depressed. The **Fit Vertical** button makes the current page fit in the window vertically. The **Fit Horizontal** button makes the current page fit in the window horizontally. Depending on how the window is sized, these last two options can dramatically change the view of the fax.

The next two buttons control the scale of the view. The **Zoom In** and **Zoom Out** buttons increase and decrease the magnification of the fax. You can set the magnification factor from 25% to 900%

The next set of four buttons is used to change pages in multiple page faxes. The first two in the set will display the **Next Page** and **Previous Page** of a fax document, respectively. The last two will go to the **First Page** and **Last Page** in the fax.

☞ **NOTE**: *These buttons will be dimmed for single page faxes.*

These commands are also available from the **View** Menu.

View

✓ Normal
Fit Vertical
Fit Horizontal

Zoom In   ⌘M
Zoom Out   ⌘L
View at 50%
View at 100%
View at 300%

Next Page
Previous Page
First Page
Last Page
Goto Page...
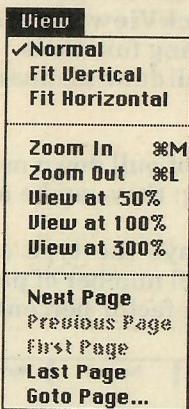
The next three buttons are the **Rotate 90**, **Rotate 180**, and **Rotate 270** buttons. These buttons allow you to rotate the fax image 90, 180, and 270 degrees.

[90] [180] [270]

The **Invert** button inverts the image, or in other words it makes black text on a white sheet of paper look like white text on a black sheet of paper like a photo negative.

These commands are also accessible through the **Image** Menu.

Image

Rotate 90°
Rotate 180°
Rotate 270°

Invert
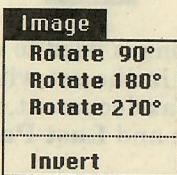
When you are done viewing a fax, choose **Close** or **Quit** from the **File** Menu which will close the **QuickView** fax window. Since the fax file itself does not get altered in any way by viewing, there is no command (or need) to save the image.

With **QuickView** you can also choose to export a selected file to different formats including PICT, TIFF, and MacPaint. You can export the current fax file being viewed by using the **Save As...** item in the **File Menu** or **Export** from the **File** Menu. Selecting the **Export** option brings up a file selection box which will display the available fax files that can be exported. When a fax file has been selected by choosing **Open**, the a dialog will appear displaying the status of un-compressing the fax file. When this de-compressing is complete, the **Export** dialog will appear. If you select **Save As...**, the **Export** dialog will be the first thing to appear.

The Export dialog

```
+----------------------------------------------------+
|                  Export Options                    |
|                                                    |
|    File Type: [  PICT  ]    Creator: [MDPL ]       |
|  MacPaint Options:  [ Size To Fit ]                |
|                                                    |
|   Page Range: ○ All Pages  ○ From: [1]  To: [1]    |
|   ☐ Reduced Resolution (100dpi x 100dpi)           |
|                              [  OK  ]  [ Cancel ]  |
+----------------------------------------------------+
```
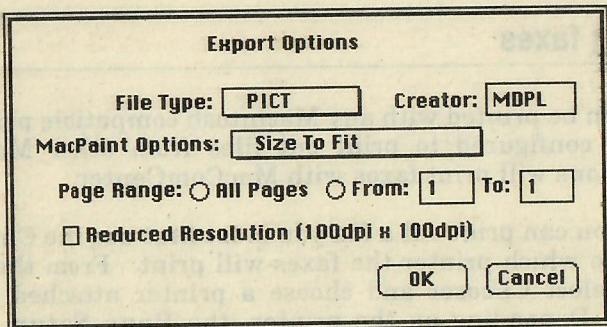
File Type
This pop-up menu allows you to choose what type of file the fax will be converted to. Your choices are PICT, TIFF, and MacPaint.

Creator
The **Creator** field specifies the creator of the file. When you double-click on this file, the **Creator** application will open the file.

MacPaint Options (MacPaint file type only)
These options affect only MacPaint files and allow you to change the size of the exported graphic file or the portion of the graphic file to export. Your choices are Size to Fit, Top Left Corner, Top Right Corner, Bottom Left Corner and Bottom Right Corner.

MacPaint files are fixed size bitmaps which are smaller than a typical fax page. These options allow you to export all portions of a fax page.

Page Range
This allows you to specify a range of pages you wish to export. Select the **All Pages** option if you want to export the entire document. Otherwise select **From** and specify the page range you wish to export.

Reduced Resolution
This option will convert the selected document to the new file type at a lower resolution (100dpi x 100dpi), resulting in a smaller file. This may be used when the quality is not important or file size *is* an issue.

Printing faxes

Faxes can be printed with any Macintosh compatible printer, so printers configured to print out files from other Macintosh applications will print faxes with MacComCenter.

Before you can print out a fax you must first use the Chooser to specify to which printer the faxes will print. From the **Apple** Menu, select Chooser and choose a printer attached to your system. Depending on the printer, the **Page Setup...** menu option, located under the **File** Menu, can be used to set the *print quality, image scale, paper size*, and *paper orientation*. When this is complete, select **Print...** to specify the page(s) to be printed.

Chapter 4
Advanced Faxing

Other fax features include a fax phone list, keeping track of faxing with the use of Send and Receive Fax Logs, converting files to fax files, scheduling faxes, viewing the outgoing fax schedule, broadcasting faxes, fax configuration and setup, and the **Fax Manager**.

Fax phone list

The fax phone list provides access to your personalized phone list for frequently dialed fax machines. It can be accessed by choosing **MCC Fax Phone List** from the **File** Menu, from the **Send Fax Information** dialog, from the **ToolBar** with the **Fax List** button, or by choosing **Open...** in the **File** Menu and selecting a fax phone list. The fax phone list provides a Finder-like interface for ease of use. You can create a new fax phone list by selecting the **New...** item in the **File** Menu and choosing fax phone list for the type of new document.

This displays the number
of items in the fax phone list

Tool Bar	New Entry	Edit	Delete	Sort	Browse	Group	Send Fax	1 Entries
	Group	Name		Number			Attention	

This is the
group
identifier → 1   XYZ Company   (415) 555-1212   Jane

This is the
name field

This is the
fax phone
number

This is
the
attention
field
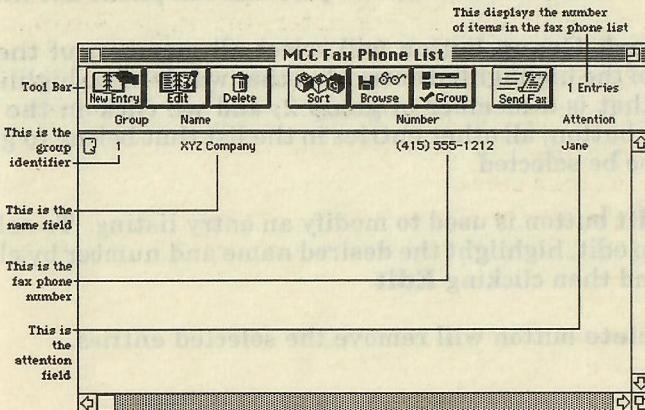
Building and Editing a Fax Phone List

The fax phone list dialog is comprised of a ToolBar and fax phone entries. To add a number to a fax phone list, click the **New Entry** button. The **Fax Phone List Add** dialog will appear, providing text boxes for the *name, fax number, attention*, and *group identifier*, if desired. If a fax is normally sent to someone specifically within a company, a fax can be made to their attention by entering their name in the *attention* field. The *group identifier* allows you to define a collection of fax numbers that may be dialed by selecting one member of the group and clicking on the **Mark Group** button. For example, you could easily send the same fax to all your customers by giving each person on your list the same group character, and then simply selecting **Mark Group**. Each person within the specified group will receive the fax. A *group identifier* may be any character on your keyboard. Using a *group identifier* is optional. After entering the information required, click the **OK** button to add the entry to the list.

The **Sort** button will sort the fax phone list entries. You can sort the entries in ascending and descending order by name or ascending order by fax number.

The **Browse** button allows you to select a different fax phone list file enabling you to have different lists for various needs. An example would be business vs. personal fax phone list files.

The **Mark Group** button will select all members of the same group of the highlighted entry. In other words, if we highlight an entry that is a member of group 2, and we click on the **Mark Group** button, all other entries in the list that belong to group 2 will also be selected.

The **Edit** button is used to modify an entry listing. To select an entry to edit, highlight the desired name and number by clicking on it and then clicking **Edit**.

The **Delete** button will remove the selected entries.

Choosing fax destinations

Selecting recipients can done with the mouse and shift key combination. Select the desired entries while holding the shift key down. If you want to de-select an entry, keep the shift key down and click on the desired entry. You may send a fax to as many different numbers as you have entries in a fax phone list. Continue this selecting process until all desired recipients have been marked. You can also select a range of recipients by dragging the selection rectangle through the desired entries. Entries must be selected in order to send a fax. A selected entry will appear highlighted to show its marked status. The **Mark Group** button instructs MacComCenter to select the entire group of fax numbers based on the *group identifier* of the selected entry. When you click the **Send Fax** button, the selected entries will be the destination for the fax.

By choosing **View Send Log** or **View Receive Log** from the **Fax Menu**, you can view a log of both your outgoing and incoming faxes. Both logs provide the status of the faxes both sent and received. These logs are also accessible with the **Send Log** and **Receive Log** buttons on the **Advanced ToolBar**. Double-clicking an entry performs the same action as highlighting it and selecting the **More** button.

The Receive Fax Log

The **Receive Fax Log** provides a line of information for each fax transmission received. The log displays the date, time, document file name, number of pages received, and status of the receive document. The **More** button will display the status of the received fax including *remote ID*, *document file name*, *pages received*, *resolution*, *date*, *time*, and *status*. A specific entry can be removed with the **Delete** button; the entire log can be cleared by clicking **Remove All**.

```
              Name :
         Remote ID :    714-555-1212
         Document :     12/22/93 #001
            Pages :     1
       Resolution :     Normal
        Date/Time :     12-22-93  1 :37 pm
         Duration :
           Status :     Receive OK


                              [ Cancel ]   [  OK  ]
```
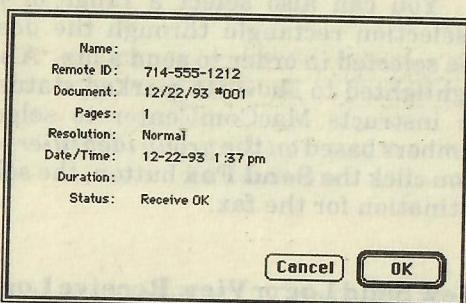
The Send Fax Log

The Send Fax Log provides a line of information for each transmission sent. The log displays the date, time, document file name, number of pages sent, and status of the send document. The **More** button will display more information of the sent fax including name, remote ID, document file name, pages sent, resolution, date, time, duration, and status of the sent fax. A specific entry can be removed with the **Delete** button; the entire log can be cleared by clicking **Remove All**.

```
              Name :     XYZ Company
         Remote ID :     555-1212
         Document :      ReadMe!.Fax
            Pages :      0 of 2 sent
       Resolution :      Normal
        Date/Time :      01-15-94  1 :19 pm
         Duration :      00 :00 :00
           Status :      User Cancelled


                              [ Cancel ]   [  OK  ]
```
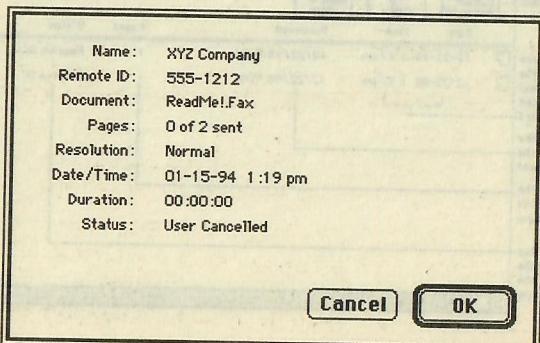
Another feature MacComCenter has is the ability to create and use fax archives. Fax archives allow you to compress fax files and store multiple files in a single file for later reference. You can create as many archives as you wish. The archiving utility in MacComCenter gives you the options to view archive entries, unpack fax files and delete fax files from the archive. To use the archiving utility select **Fax Archive** from the **Fax** Menu.

MCC Archive

Tool Bar — New Entry | Delete | Unpack | View Fax | Browse | New Archive   1 Entries

Number of entries in archive

Document name

Date & Time

Number of pages

Comment

Nelson.Fax   2-09-1994 11:10 am   1   This is a comment.
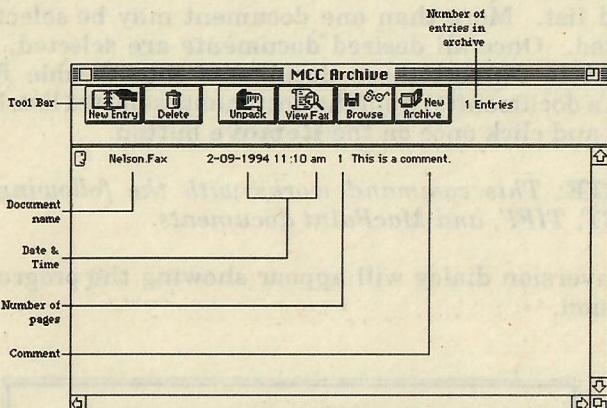
When you add a fax file to the archive the following dialog will appear. From this dialog, the file name is displayed, you can delete the original fax file to save yourself disk space, and you can enter a comment for later reference.

Fax file name

Add to Archive

File: ReadMe!.Fax

Comment: This is a comment for later...

Enter a comment here for later reference

Check this to delete original fax file

☐ Delete original after packing

Cancel   Add

Press this button to add the fax file to the archive
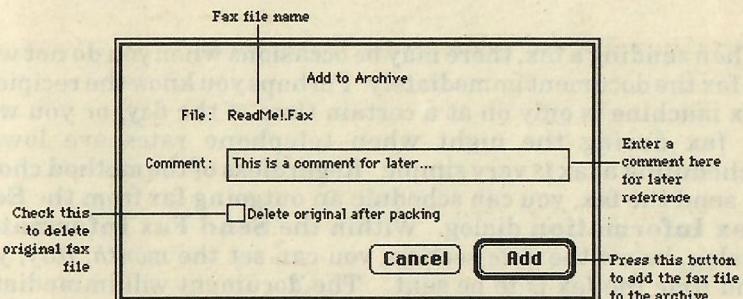
All fax files are considered graphic files. As such, you can create a fax by converting a graphic file into a fax file so that it can be faxed with MacComCenter, such as MacPaint files. Conversion

of graphic files can be performed with the **Convert Documents** item, located under the **Fax** Menu. When the **Convert Documents** command is selected a dialog will be displayed. At the right side of the double file selection box is the documents selected list which is a list of the documents you have currently selected. At the left side of the double file selection box is the documents available list which is a list of documents to select from. As you select documents from the documents available list press the **Add** button, the document is added to the document selected list. More than one document may be selected to be converted. Once all desired documents are selected, press on **Convert** to convert these documents into faxable files. To remove a document(s) from the documents selected list, highlight the file and click once on the **Remove** button.

☞ **NOTE**: *This command works with the following: TEXT, PICT, TIFF, and MacPaint documents.*

The conversion dialog will appear showing the progress of the conversion.

```
┌──────────────────────────────────────────────┐
│                                                │
│   Converting Source type:  TEXT     ▯  ╮       │
│        To Destination type:  Fax    ▤  ╯       │
│                                                │
│        Source name:  ReadMe!                   │
│   Destination name:  ReadMe!.Fax               │
│       ▨▨▨▨▨▨▨▨▨▨▨▨▨▨▨▨▨▨▨▨▨▨▨▨▨▨▨▨▨▨          │
│                                                │
└──────────────────────────────────────────────┘
```
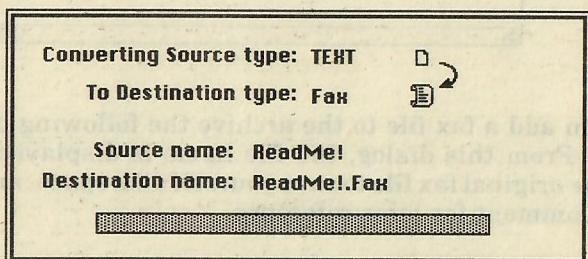
When sending a fax, there may be occasions when you do not want to fax the document immediately. Perhaps you know the recipients fax machine is only on at a certain time of the day, or you want to fax during the night when telephone rates are lowest. Scheduling a fax is very simple. Regardless of the method chosen to send the fax, you can schedule an outgoing fax from the **Send Fax Information** dialog. Within the **Send Fax Information** dialog, below the *note* section, you can set the m*onth, day, year* and *time* the fax is to be sent. The document will immediately convert into a faxable file ready to be faxed out at the scheduled time. Using the system clock located within your computer, MacComCenter will automatically send the fax at the specified time. You can also schedule a fax from the **MCC Fax Print**

dialog. The scheduling information can be configured at the bottom of the **MCC Fax Print** dialog just like MacComCenter's **Send Fax Information** dialog.

```
Send on : Mon, Jan 17, 1994          At: 10:40 AM
Date :    January      17    1994   Time :    10  :   40    AM
☒ Include cover page
```
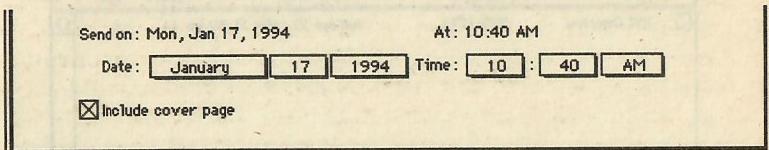
One of the nicer features of a true fax machine is its ability to send a fax to someone who is already on the phone with you. A fax machine owner could just reach down and press the Send button to start sending a fax over the line. Traditionally, internal fax/modems have had a problem with this, but MacComCenter allows you to do this by sending the fax manually. To send a fax manually, send a fax as you ordinarily would, right up to the point where a phone number would be entered in the **Send Fax Information** dialog. Instead of entering a number, click on the **Manual Send** button. MacComCenter will then create a cover page and convert the file (if necessary), and prompt you to pick up the hand set and dial the fax number if you are not already connected, and when hearing the fax pick up, press **OK**.

```
Manual Fax Sending
Pick-up the handset and dial the fax
number now. When you hear the fax
pick-up on the other end, press OK.
After the Modem Off-Hook (OH) light
goes on or you hear the line "click",
hang-up the handset.

           Cancel      OK
```
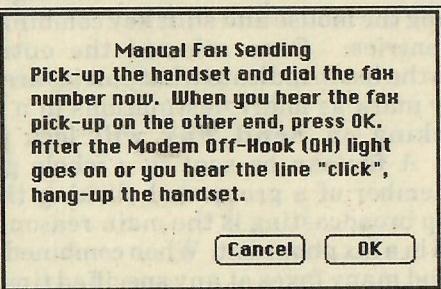
The **View Schedule** command, accessed from the **Fax Menu,** allows you to see what fax transmissions are scheduled to be sent and at what date and time. Provided information includes *name, phone number, date, time, destination, pages* and *number of locations the document will be sent*. If you are broadcasting to a group please refer to the **Fax Broadcasting** section of this User's Guide below.

```
========================= MCC Scheduler =========================
  [🗑]        [👆]                        1 Entries
 Delete    RemoveAll
   Name            Number          Time to Send        Dest.  Pgs
 [ ] XYZ Company   555-1212    Sun Apr 17 1994 11:30 am 1      2     [⇧]



                                                                    [⇩]
[⇦]                                                            [⇨][▣]
```
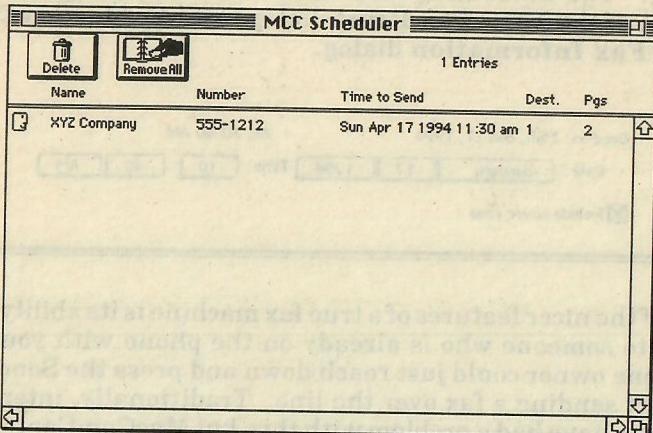
To remove a selected scheduled transmission, select the desired
entry from the list and click the **Delete** button. To clear the
schedule of all faxes, click the **Remove All** button.

The ability to send out the same fax to several destinations is
called **broadcasting**, and is fully supported by MacComCenter.
The easiest way to broadcast a fax is to simply select more than
one destination from a fax phone list by highlighting the desired
recipients using the mouse and shift key combination to highlight
the desired entries. Once selected the entries will appear
highlighted in the list to indicate what entries are on the broadcast
list. You may mark as many destinations in a fax phone list as
desired. Clicking on **Send Fax** will lock in the selected
destinations. A fax can be sent to a whole group quickly by
selecting a member of a group and clicking the **Mark Group**
button. Group broadcasting is the main reason to use the *group
identifier* field in a fax phone list. When combined with scheduling,
it is easy to send many faxes at any specified time by entering the
desired *month*, *day*, *year* and *time* in the **Send Fax Information**
dialog.

```
┌─────────────────────── MCC Fax Phone List ───────────────────────┐
│ ╔══════╦══════╦══════╦══════╦══════╦══════╗      ╔══════╗          │
│ ║ New  ║ Edit ║Delete║ Sort ║Browse║Group ║      ║SendFax        │
│ ║Entry ║      ║      ║      ║      ║✓     ║      ║      ║ 3 Entries │
│ ╚══════╩══════╩══════╩══════╩══════╩══════╝      ╚══════╝          │
│     Group   Name                 Number              Attention     │
│ ▦    1      XYZ Company          (415) 555-1212      Jane          │
│ ▯    a      ABC Corporation      555-1212            Jack          │
│ ▦    1      No Company           555-1212            Nobody        │
│                                                                    │
└────────────────────────────────────────────────────────────────────┘
```

The **Fax Controller** is a Macintosh desk accessory (DA) used to monitor the status of the fax/modem when sending faxes and answering incoming calls. The **Fax Controller** is accessible from the **Apple** Menu or from the MacComCenter application's **Tools** Menu.

```
┌───────── Fax Controller ─────────┐
│                                  │
│ ▤     Status: Waiting to Send... │
│       Fax ID:                    │
│     Document:                    │
│   Resolution:                    │
│ Time Elapsed:                    │
└──────────────────────────────────┘
```
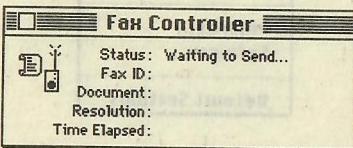
Fax controller options

```
┌─── Fax Controller ───┐
│ About Fax Controller...   ⌘? │
│                              │
│ Disable Fax Receiving     ⌘R │
│ Manual Receive            ⌘M │
│ Cancel Answer             ⌘. │
│                              │
│ Quit                      ⌘Q │
└──────────────────────────────┘
```
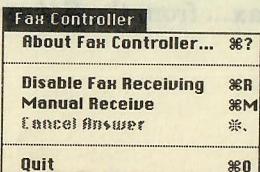
Fax Receiving is a toggled option. When this option reads **Disable Fax Receiving**, Fax Receiving is enabled and faxes will be received by the **Fax Manager**. This option can be toggled by choosing it from the **Fax Controller** Menu. When this option reads **Enable Fax Receiving**, Fax Receiving is disabled and MacComCenter will not receive faxes.

The **Fax Receiving** command can also be toggled from the **Fax** Menu within the MacComCenter application by choosing **Enable/ Disable Fax Receiving**. Choosing **Manual Receive** forces the **Fax Controller** to pick up the phone line and start broadcasting receive fax tones, which will initiate a fax receive. This feature is useful for occasions where you are already speaking to someone on the telephone and they press the send button on their fax machine to send a fax. Many faxback services will not work until the **Manual Receive** command is used.

These options include the commands and options that customize your faxing features and abilities that are accessible under the **Setup** Menu are covered in this section.

```
Setup
Modem...
Terminal...
File Transfer...

Fax...
Fax Cover Page...

Macros...
Services...

Default Settings
```

Fax Setup

The **Fax Setup** dialog contains setup information for sending and receiving faxes, and fax document options. To open the **Fax Setup** dialog select **Fax...** from the **Setup** Menu.

The document options
determine how a document
will be converted to a fax file

The Send options
allow you to choose
what happens on a
fax send

Hot Keys can be
configured to quickly
choose the MCC Fax Print
driver

┌─ Send options: ──────────────────┐
☒ Include cover page   ☒ Launch Fax Controller
☐ Delete fax files   ☐ Call grouping
☐ Alert on fax send   ☐ RTS/CTS flow control
   Max baud rate: [14400]

┌─ Hot Keys: ──────────────────────┐
☒ Enable Hot Keys
☐ Add faxing to File menu
[⌘ ⌘] [option] [shift]

┌─ Receive options: ───────────────┐
☒ Beep   Folder for
☒ Display alert   received faxes:
☐ Display icon
☒ Launch Fax Controller   [icon]
                        MacComCenter Folder
   Max baud rate: [14400]

┌─ Document options: ──────────────┐
☒ Center on page
☐ High resolution
☐ Full page

[Fax Manager Setup]

Fax ID string: [   ]

[Cancel]   [OK]

The Fax ID string is a string
that is sent to a remote fax
machine and identifies your
fax machine

The Receive options
allow you to choose
what happens on a
fax receive

Press this to bring
up the Fax Manager
Setup dialog

Send options:

Include cover page
Provides you with the option to include a cover page when
sending a fax.

Delete fax files
After send check box instructs MacComCenter to delete the fax
file after successful transmission. This can save a good deal of
disk space.

Alert on fax send
Instructs **Fax Manager** to notify you upon completion of a fax
transmission.

Launch Fax Controller
Instructs the **Fax Manager** to open the **Fax Controller** DA
when it begins to send a fax.

Call grouping

Allows for call grouping. If checked, all scheduled faxes with the same destination fax number will be sent at the earliest scheduled time in a single transmission.

RTS/CTS flow control

Allows for hardware flow control during faxing. If this option is off, software flow control will be enabled.

Max baud rate

Defines the maximum baud rate for sending a fax.

Receive fax options:

Beep

Causes a beep to sound when a fax is received.

Display alert

Displays an alert dialog when a fax is received.

Display icon

Causes the **Fax Manager** to display an icon in the menu bar when a fax is received.

Launch Fax Controller

Causes the **Fax Controller** DA to be opened when the **Fax Manager** answers a call.

Folder for received faxes

Determines the folder to store received faxes.

Fax ID string

Is the Fax ID transmitted to the sending fax machine to identify your fax/modem. Normally your fax # or company name.

Max baud rate

Defines the maximum baud rate for receiving a fax.

Document options

Center on page

This tells MacComCenter to center both text and graphic images at conversion time. If this option is not selected, images will be left justified.

High resolution

Tells MacComCenter to transmit documents at high resolution (200 dpi x 200 dpi)

Full page

Tells MacComCenter to make all pages transmitted 11 inches long.

Hot Keys Options:

Enable Hot Keys allows for the use of the defined Hot Keys.

Add faxing to File Menu appends faxing options in the **File** Menu for easy access to both your standard printer and **MCC Fax Print**.

Command, Option, Shift buttons. These buttons allow you to use any of the combination of the three to be used as Hot Keys to invoke faxing. The buttons, when depressed, have been selected as the Hot Keys.

Fax Manager setup

The **Fax Manager Setup** dialog contains setup information on how the **Fax Manager** should answer a call, how it dials a fax number, and determines if it is to be loaded at startup. The **Fax Manager Setup** dialog can be opened by clicking on the **Fax Manager Setup** button in the **Fax Setup** dialog.

These options determine
what the Fax Manager does
on busy

The Answer Mode determines
how the Fax Manager handles
an incoming call

```
┌─ Redial options : ──────────────┐   ┌─ Answer mode : ─────────────┐
│                                 │   │ ○ Fax only    ● Auto detect │
│ # seconds to wait before redial: 30 ⬍│ │ ○ Data only   ○ No answer   │
│                                 │   └─────────────────────────────┘
│        Redial attempts:  3  ⬍   │   ┌─ Startup options : ─────────┐
│                                 │   │ ☒ Load Fax Manager          │
│  Dial timeout (seconds) : 60 ⬍  │   │ ☒ Enable fax receiving      │
│                                 │   │ ☒ Display icon              │
│                                 │   └─────────────────────────────┘
│  ☐ Fax debug mode               │
│                                 │        ( Cancel )  ( OK )
└─────────────────────────────────┘
```
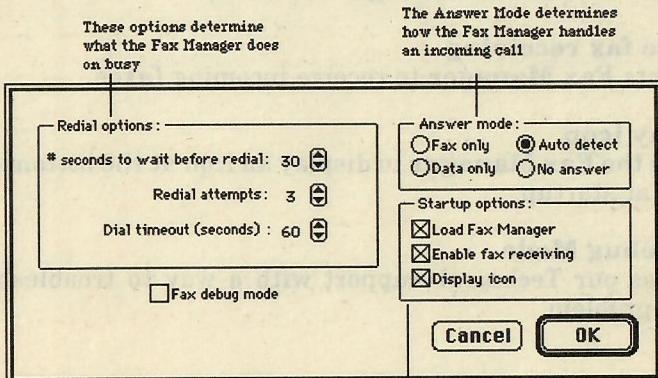
The Startup options determine
what happens when your Mac
boots up

Redial options:

of seconds to wait before redial
Specifies the number of seconds to wait before attempting to redial a busy fax machine.

Redial attempts
Field allows you to specify how many times to redial a busy fax machine before logging it as busy in the **Send Fax Log**.

Dial timeout
Is the amount of time to let the phone ring.

Answer Mode options:

Fax only
Allows for fax receiving only.

Data only
Allows for answering incoming calls as data only.

Auto detect
Instructs MacComCenter to determine the type of incoming call and handle it accordingly.

No answer
Instructs MacComCenter not to answer the phone.

Startup options:

Load Fax Manager
Specifies to load **Fax Manager** at startup.

Enable fax receiving
Instructs **Fax Manager** to receive incoming faxes.

Display icon
Causes the **Fax Manager** to display an icon at the bottom of the screen at startup.

Fax Debug Mode
Provides our Technical Support with a way to troubleshoot a faxing problem.

Fax Cover Page Setup

The **Fax Cover Page Setup** dialog allows you to change various aspects of the cover page that can be sent with all faxes. The **Fax Cover Page Setup** dialog can be opened from the **Setup** Menu by selecting **Fax Cover Page...**
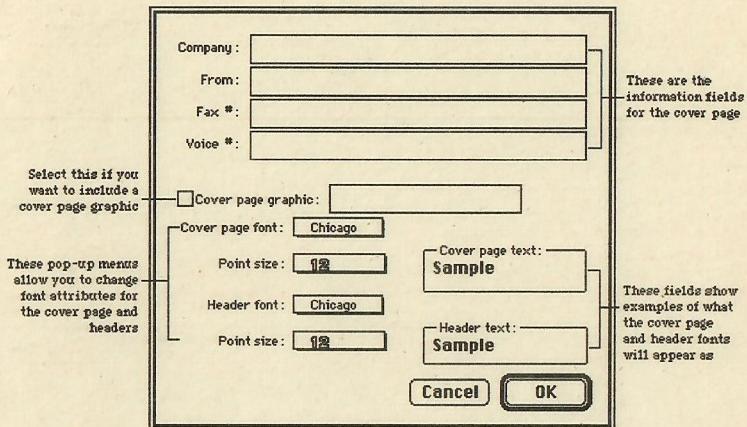
Company
Is the name of your company, if applicable. If this field is filled out, each page you send will have a standard header at the top.

From
Is your name. Enter it here if it is desired to appear on the fax.

Fax
Is your Fax number. Enter it here if it is desired to appear on the fax.

Voice
Is your voice number. Enter it here if it is desired to appear on the fax.

Cover Page graphic
Check box determines if a graphic will appear on all sent cover pages. When checked a file selection box will appear prompting you for a fax file to be used as your cover page graphic. The cover page graphic fax file must be less than half a page.

Cover Page font & point size
Determines the font and font size that the text will appear on the cover page.

Header font & point size
Determines the font and font size that the text will appear on the header.

Chapter 5
Data Communications Overview

Chapter 5 describes how to call another modem or BBS for a data communications connection and how to upload (send) and download (receive) with remote systems. The commands for data communications are found in the **Data** Menu. Chapter 5 also explains configuring MacComCenter for data communications.

```
Data
  Dial...                    ⌘D

  Off-Line
  Hang Up                    ⌘H
  Send Break

  Send Xmodem (CRC)...       ⌘U
  Send File                   ▶
  Receive Xmodem (CRC)  ⌘I
  Receive File                ▶

  Open Capture File...

  Run Script...
```
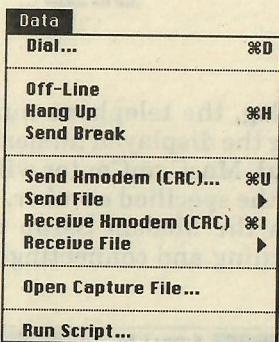
There are two ways to dial out for a data connection: **Dial** from the **Data** Menu or accessing a data phone list.

Using the Dialer

The majority of data communications sessions will begin with you dialing out to another modem, BBS or on-line service. The quickest way to do this is by simply dialing the modem with the **Dial** command from the **Data** Menu or with the **Dial** button on the **ToolBar**, which brings up the **Dialer** dialog.

Phone number

Telephone buttons

1	ABC **2**	DEF **3**
GHI **4**	JKL **5**	MNO **6**
PRS **7**	TUV **8**	WXY **9**
TONE ✳	OPER **0**	#
Delete ◀	Clear ✲	Pause ♪

Press this to add a two second pause

Cancel   **Dial**

Press this to dial the number
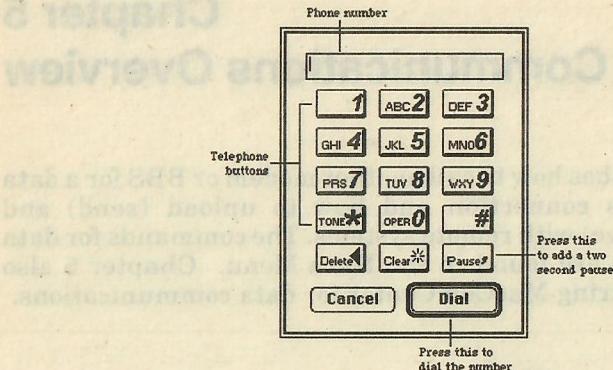
From the **Dialer** dialog, the telephone number can be entered into the text box using the displayed numeric keypad and dialed. When you click on **Dial**, MacComCenter will bring up the **Smart Mode** dialog and dial the specified number. MacComCenter uses the information from the Modem Setup dialog and Terminal Setup dialog when dialing and connecting from the Dialer.

≣ Smart Mode ≣

Number: 1-714-362-5822

Attempt #: 1

Status: Dialing...

Cancel
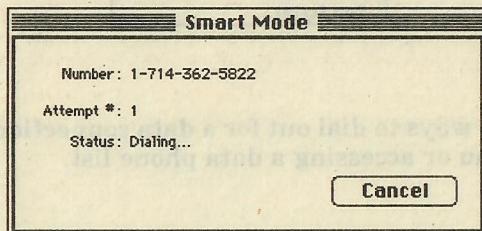
Using the Data Phone List

Choosing **MCC Phone List** from the File Menu brings up the default data phone list, allowing access to a data communications telephone list of all your frequently dialed data numbers.

This shows the number of
entries in the data phone list

| MCC Phone List |

Tool Bar

New Entry | Edit | Delete | Sort | Browse | Dial | 1 Entries

Name | Number | Line Settings | Terminal

This is the name field — American E-Mail | 1-714-362-5822 | 2400-8-N-1 | ANSI

This is the data phone number field

This is the line settings field

This is the terminal emulator field
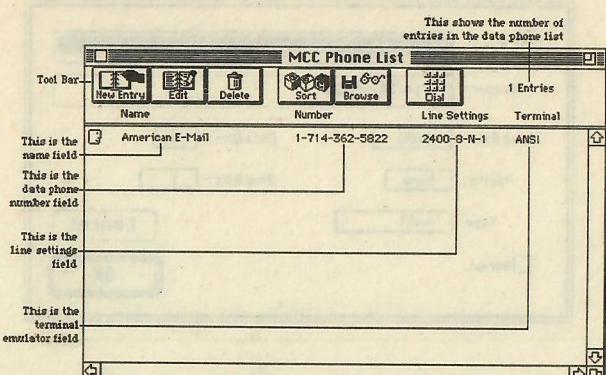
In addition, you may also click the **Data List** icon from the **ToolBar** to access the phone list. You'll find that it is accessed almost exactly like the fax phone list. Like the fax phone list you can have several data phone lists. Your default data phone list will show up in the File Menu for quick access. You can create a new data phone list by selecting the **New...** item in the **File** Menu and selecting data phone list as the type of new document.

Choose the **Data List** icon from the **ToolBar** now, and you will find that there is already an entry in the list: **American E-Mail**. **American E-Mail** is Smith Micro Software's Bulletin Board Service (BBS); you are invited to use this system to test the data communications portion of MacComCenter. There is no charge for using our system, other than the long distance charges from your telephone company for dialing the 714 area code (if you are calling from the 714 area code, be sure to delete the 1-714 from the number field). To dial any number as it appears in a data phone list, highlight the entry by clicking on it and click on the **Dial** button or simply double-click on the item. The **New Entry** and **Delete** buttons allow you to respectively add and delete data phone list entries. To edit an entry in a data phone list, highlight the entry and click the **Edit** button or drag an entry onto the **Edit** button. Highlight the **American E-Mail** entry and click the **Edit** button now. This brings up the **Phone List Edit** dialog, where every aspect of an entry can be changed.

```
    Name:  [American E-Mail                        ]
  Number:  [1-714-362-5822                         ]

Baud Rate: [  2400  ]    Data Bits: [ 8 ]

   Parity: [  None  ]    Stop Bits: [ 1 ]

  .  Type: [  ANSI  ]              (  Cancel  )
□Script:
                                   (((   OK   )))
```
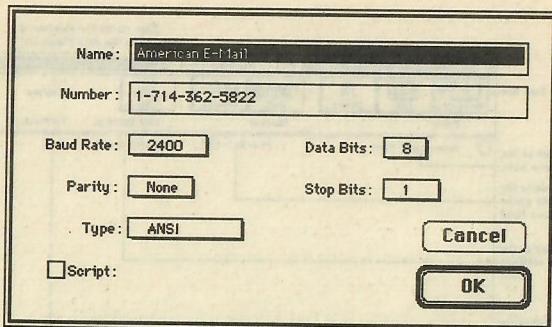
To change the name or number of an entry, just click in the appropriate field and type in the new entry. Notice that spaces and dashes are acceptable in the telephone number.

The other fields deal with the more technical aspects of the connection, such as *baud rate*, *terminal type*, and *line settings*. While there is no set standard terminal type and line setting combination for every modem connection, there are some guidelines to follow which may be helpful:

Set the baud rate to the highest setting your modem will support, or to 2400 if you are getting bad connections. When you dial the other modem, the two modems will establish the highest connection speed possible.

☞ **NOTE**: *If your modem is configured to return the actual connection speed (DCE) but does not change the port speed, then you need to have **Auto baud** turned Off. If you make a connection at a speed other than your local speed (DTE — shown in the Terminal Status Bar), and your modem switches speeds automatically for you, make sure you have **Auto baud** turned On.*

Small systems (BBS's) tend to use the ANSI terminal type with 8 data bits, no parity, and one stop bit (8-N-1).

Large installations (such as mainframes and on-line services like **GEnie** and **CompuServe**) tend to use the VT100 terminal type with 7 data bits, even parity, and 1 stop bit (7-E-1).

Two people connecting their computers together via modem should try the TTY terminal type with 8 data bits, no parity, and one stop bit (8-N-1).

Other than possibly the area code in the telephone number, all the settings for the **American E-Mail** entry are correct. Click **OK** to leave the **Phone List Edit** dialog. Select the **American E-Mail** entry and click **Dial** to dial our BBS. You can also double-click on the **American E-Mail** entry to dial it. Once connected to our **American E-Mail** system, follow the prompts to create a new user account. You will be prompted at every step and must create a password of your own choosing to enter the system for future on-line sessions. When connected to our system, you may upload and download public domain and utility files and programs, visit the On-line Software Store, or get on-line technical support. All selections are menu driven; when in doubt enter a question mark (?) for help. To disconnect from our (or any) system, pull down the **Data** Menu and choose **Hang Up.**

Unlike faxing, file transfers do not happen automatically; there is a good deal of preparation to consider. Fortunately, MacComCenter makes the procedure as intuitive as possible.

The Concept of File Transfers

Before getting into the specifics of file transfers, an outline of the concept of uploading and downloading should be very helpful to those users who have never transferred files before. The general process goes something like this:

1. Connect with the other modem or system.

Make sure that you can both write to the screen so the other end can understand you and vice versa.

2. Tell the other side that you are interested in file transfers.

3. Tell the other side what file(s) you want or what file(s) they should expect from you.

4. Tell the other side what transfer protocol to use.

For a discussion on the differences between the protocols, refer to the next section.

5. Pull down the **Data** Menu and choose **Send File** or **Receive File**.

Choose the protocol you told the other side (host or user) to expect.

6. If sending, choose the file(s) you want to send and click **OK** for the transfer to begin.

With this in mind, MacComCenter file transfers will make a lot more sense.

Uploading Files

Uploading a file means to send a file from your computer to a remote computer.

Selecting One File to Upload

The ASCII, Xmodem (CRC) and Xmodem 1K protocols let you upload only one file per transmission. When you select sending by one of these protocols a file selection box will appear. Select the file you want to send and click **Open**. This starts the transfer and calls up the **File Transfer Status** dialog.

Selecting Multiple Files to Upload

The Kermit, Ymodem, Ymodem-G, and CompuServe B/B+ protocols let you upload more than one file during the same transmission. In addition to sending a batch of files, one file may also be sent by itself. The main advantage of sending one file with one of these protocols is that the other end need not type in a file name, as the file name is included with the transfer using these protocols. If you select one of these protocols, a double file selection box appears. On the left side of the double file selection box is the files available list. On the right side of the double file

selection box is the files selected list. By using the double file selection box to select the files from the files available list, clicking **Add** will add the file to the files selected list. Repeat this for every file you want to add to the batch send. When the list of files selected is complete, click the **Send** button, which begins the transfer and displays the **File Transfer Status** dialog.

Press this button to add files from the files available list to the files selected list

The files selected list contains the files that are selected to be sent and an icon identifying their file type

📁 Release Notes ▼

Files selected:

>> Add >>

<<Remove<<

Send

Cancel

🖳 MAC1

Desktop   Eject

Number of files: 0

The files available list shows all files that you can send

Press this button to send the selected files

Press this button to remove the selected item from the files selected list

This shows the number of files in the files selected list

File Transfer Status Dialog

The title of the window shows the
current protocol being used

```
════════════ Xmodem Send ════════════
```

Efficiency

File name: <Unknown>
File size: <Unknown>   File # 0
Status: Holding for start
Bytes sent: 0   Block # 0
Block size: Retries: 0
Time elapsed/left: 00:00:00 / 00:00:00
Effective baud rate: 0   BPS

The Efficiency gauge
shows the efficiency
of the file transfer

(Cancel)

The Percent bar shows the
percentage complete of the
file transfer

The **File Transfer Status** dialog keeps you informed of the upload and download status. It displays the following information:

Protocol
The file transfer protocol is displayed in the window title.

File name
This is the name of the file currently being transferred.

File #
This is the number of the current file being transferred in a batch. If you are sending a single file, the file number should be 1.

File size
This item displays the size of the current file being transferred. Some protocols do not have the file size information on downloads. If this is the case, the file size would read <Unknown>.

Status
The status of the file transfer contains the current action that MacComCenter is performing during the file transfer.

Bytes sent/rcvd
This field displays the number of bytes sent or received so far.

Block size
This displays the size of each block being transferred. A block is the unit of data being transferred.

Time elapsed/left
This displays how long the current transfer has lasted and how long until it's done.

Effective baud rate
This displays the actual number of bits transferred per second.

Efficiency gauge
The Efficiency gauge graphically displays the effective baud rate versus the connected baud rate. The higher the gauge reads, the better the efficiency.

Percent bar
The Percent bar graphically displays the percentage complete for the current file transfer.

Downloading Files

Downloading a file means to receive a file from a remote computer to your computer. Receiving files works much like sending a file and actually involves less steps. The biggest issue is determining what protocol is being used and how many files are being sent.

Receiving One File

The ASCII, Xmodem (CRC), and Xmodem 1K protocols let you download only one file per transmission.

Receiving a Batch of Files

The Kermit, Ymodem, Ymodem-G, and CompuServe B/B+ protocols let you download more than one file during the same transmission. In addition to receiving a batch of files, one file may also be received by itself. The main advantage of receiving

files with one of these protocols is that the file name is included with the transfer, so it is impossible for files to be named incorrectly.

MacComCenter will automatically download files and put them in the **MacComCenter Folder** as soon as **Receive File** and the protocol is chosen from the **Data** Menu.

The Scrollback Buffer allows you to review any text that has appeared during the on-line session but has scrolled up beyond the view of the **Terminal Window**, and is controlled by the scroll bar to on the right. To see what has scrolled up, simply click and hold the up arrow button or click in the gray area above the thumb to go up a whole screen. You can resume the on-line session by scrolling back down to the bottom of the **Terminal Window**, or by dragging the thumb to the bottom of the scroll bar, or by pressing any key. The Scrollback Buffer will maintain all formatting — color, font attributes, etc. — of screens which have scrolled by.

If you know in advance that you want to capture the text that appears on screen, MacComCenter can be set to make a copy of everything you see and save it into a text file.

To capture text, pull down the **Data** Menu and choose **Open Capture File**, which calls up the a file selection box. Type a name for the file to save the captured text as and click **OK** to begin capturing.

Clearing the Screen
Choosing **Clear** from the **Edit** Menu will clear the **Terminal Window** of its text. This command will not affect the Scrollback Buffer or the connection to the remote system.

Sending a Break
To send a break select the **Send Break** item from the **Data** Menu.

Hanging Up
To hang up a connection, select **Hang Up** from the **Data** Menu.

Selection options
You can perform operations on selected text using the **Edit** Menu items **Copy**, **Paste**, and **Select All** and the **File** Menu items **Print Selection...** and **Save Selection...** **Copy** will copy the selected text into the clipboard. **Paste** will send whatever is in

the clipboard to the modem. **Select All** selects all of the text in the Terminal Window. **Print Selection...** and **Save Selection...** prints and saves the selected text.

Protocols

This section describes the various protocols that MacComCenter provides for uploading and downloading data files.

```
ASCII...
CompuServe B...
Kermit...
Hmodem (CRC)...
Hmodem 1K...
Ymodem...
Ymodem-G...
```

ASCII

The ASCII protocol is a seven bit protocol that consists of the 128 characters that make up the upper and lower case alphabet, numbers, characters available on a standard keyboard, and certain special control characters. The ASCII protocol has no error checking capabilities. ASCII uses Xon/Xoff handshaking and required Xon/Xoff flow control to be enabled at both communicating devices. By default, MacComCenter has Xon/Xoff flow control disabled. When the computer receiving data needs to stop the data temporarily to process the received data, it sends a transmission of a Ctrl-S (S) character to stop the sending computer from sending data. When the receiving computer has processed the received data and is ready to accept more, it sends the sending computer a Ctrl-Q (Q) character to restart data transmission. Since there are no additional error checking characters sent during the transmission, ASCII is good for sending a burst transmission of raw text/data uninterrupted.

Kermit

MacComCenter provides the standard Kermit protocol. It was developed to meet the needs for file transfer between a number of different types of computers, including mainframes, mini computers and personal computers. Unlike Xmodem and Ymodem, Kermit uses variable packet sizes, with a maximum size of 1,024 bytes. Like Ymodem, Kermit provides for batch file transfers. Of the public services, only CompuServe supports Kermit.

Xmodem

MacComCenter provides two different Xmodem protocols: Xmodem 1K and Xmodem (CRC). In order for Xmodem to work, the data format must be set to 8 data bits, 1 stop bit, and no parity. Xmodem (CRC) sends the data in packets of 128 bytes. Therefore, a 1K file (1,024 bytes) would be transmitted in 8 data packets. A simple data checksum is added to each packet and is checked on the receiving end of the transfer. If the receiving Xmodem detects a bad packet, it can request the packet again giving a good level of error recovery.

Xmodem (CRC)

In an effort to guard against undetected errors the original Xmodem was enhanced by replacing the 8 bit checksum with a 16 bit Cyclic Redundancy Checksum (CRC). This change provides a 99.9984% assurance of detecting any transmission errors. With the 8 bit checksum method, it is possible for 1 out of 256 bad packets to have a valid checksum, and thus go undetected. With the CRC method only 1 out of 700 billion bad packets will generate a valid CRC. The CRC method also transmits 128 byte blocks or packets of data. If you select Xmodem (CRC) and the other system does not support it, MacComCenter will automatically switch over to the standard Xmodem; to the user both methods appear to operate identically.

Xmodem 1K

This method of Xmodem replaces the original 128 byte packets with packets of 1,024 bytes when possible. This method of Xmodem will enlarge the packet size to 1K and maintain that packet size for as long as possible. Enlarging the packet size will improve the speed of the file transfer. If you attempt to receive a file using Xmodem 1K and the other side only supports Xmodem (CRC), MacComCenter will fall back to Xmodem (CRC).

Ymodem

The Ymodem protocol (also called Ymodem Batch, Ymodem 1K, and Ymodem CRC) is very similar to the Xmodem 1K, with two major differences — Ymodem can automatically receive or send multiple files in one session, and file names are included with the transfer. In general, Ymodem is very fast and very safe and preferable to Xmodem, even for single files.

Ymodem-G

Ymodem-G is a file transfer protocol that provides the same error checking as Ymodem, but it will not perform any error correction, therefore, Ymodem requires an error correcting modem or fax/modem with either MNP 2-4 and/or V.42.

CompuServe B/B+

The CompuServe B/B+ protocol should be used when communicating with CompuServe.

Data communication setup options

In addition to permitting MacComCenter to communicate with the myriad of standard data communication configurations, the **Setup** Menu contains the options to customize MacComCenter for your system.

```
Setup
  Modem...
  Terminal...
  File Transfer...

  Fax...
  Fax Cover Page...

  Macros...
  Services...

  Default Settings
```

Modem setup

Choosing **Modem...** from the **Setup** Menu causes the **Modem Setup** dialog to appear.

The Dial options determine what
to do on busy and how many rings
to answer

Init string:	AT&FE1L1V1X4&C1&D2S0=0S7=60
Dial prefix:	ATDT
Dial suffix:	
Hangup string:	ATH

Dial options:
- Redial attempts: 5
- Dial timeout: 60
- Delay before redial: 60
- Answer on ring # 1

☒ Auto baud ☒ Drop DTR on exit

Line settings:
- Baud rate: 2400
- Data bits: 8
- Parity: None
- Stop bits: 1
- Flow control: None
- Port: Modem Port

[Cancel]

[OK]

These pop-up menus
define the line settings
for the Terminal Window

Initialization options

Initialization string

The modem initialization string is the command set that
MacComCenter issues to the modem when the application is first
started. The default string works with most modems and fax/
modems. If your modem has special features or commands, the
AT commands needed to enable them are entered here. Check
your modem manual for a detailed breakdown of the AT command
set. An abbreviated set is listed in Appendix D.

Dial prefix

The dial prefix is the command MacComCenter issues to the
modem when instructed to automatically dial a number. This
event will occur when dialing from a data phone list, using the
Dialer or connecting to either **CompuServe**, **Dow Jones** or
GEnie. This string will default to ATDT, which is the AT
command set instruction to touch tone dial a number. If you wish
to dial pulse change the string to ATDP.

Dial suffix
The dial suffix string, if defined, is added to the end of a telephone dialed with MacComCenter. If this feature is used, you may need to begin the string with a comma to cause a delay before the suffix is transmitted. The dial suffix is useful when using some long distance services.

Hang-up string
The hang-up string is the command MacComCenter issues to the modem when the **Hang Up** option is selected from the **Data** Menu. This string is preset to ATH, which is the AT command to hang-up or go on-hook.

Dial options

Redial attempts
Allows you to specify how many times to redial a data number before cancelling the data call.

Dial timeout
Is the number of seconds to wait before cancelling the call.

Delay before redial
Specifies the number of seconds to wait before attempting to redial a busy data connection.

Answer on ring #
Setting specifies after how many rings MacComCenter will answer the inbound call.

Auto baud
Tells MacComCenter to automatically reset the baud rate if the modem makes a connection at a rate other than the rate specified at dialing. Smart Mode, when selected, applies to any time that MacComCenter performs the modem dialing, such as when using the **Dialer**, data phone list, executing a Script Dial statement, or connecting to **CompuServe, Dow Jones** or **GEnie**. You must also have an AT Command set compatible modem, that detects and displays the connection baud rate. English responses must be set to On with the AT command ATV1 in order to use this feature.

Drop DTR on exit
Specifies that DTR (Data Terminal Ready) will be converted after exiting from a connection.

Line settings

The **Line settings** options allow you to select the line speed, data format and flow control to be used during communications; these settings are independent of the settings in a data phone list, but the same general guidelines for setting them apply (Refer to the **Data Phone List** section for more information). The **Cancel** button will exit without using any changes. The **OK** button will remove the dialog and implement all option changes.

Baud rate
Possible baud rate settings may vary from 300 baud to 57,600 baud. Refer to your modem manual for the maximum baud rate that your modem will handle.

Data bits
The allowable options are 5, 6, 7 or 8 data bits.

Parity
Parity may be Odd, Even, or None. None only applies only when 8 data bits are selected.

Stop bits
The allowable settings are 1, 1.5 or 2.

Flow control
Flow control is the process of telling each computer to stop sending data and starting it again. This provides time to process the data received. Flow control is usually not needed and must be implemented simultaneously by both computers.

Xon/Xoff is a software flow control that involves the sending of special control codes as part of the data. RTS/CTS is hardware flow control that is implemented in both software and the modem hardware. Therefore your modem and cable must support the RTS/CTS standard for this method to be used. The RTS/CTS method is more reliable and is mandatory for use with V.42 and MNP Level 5 and above modems.

Port Selection

You may attach your modem to the Macintosh Modem port, Printer port or any other port supported by the Communications Toolbox. Select the port which your fax/modem is connected to from the pop-up menu. The Printer port is not designed for high speed input, so you may experience problems at high speeds.

Terminal setup

The **Terminal Setup** dialog allows you to set the terminal attributes you want MacComCenter to use. The **Terminal Setup** dialog is available by selecting **Terminal...** from the **Setup** Menu.

The Display options determine the color and font of the Terminal Window

This pop-up menu determines the terminal emulator used
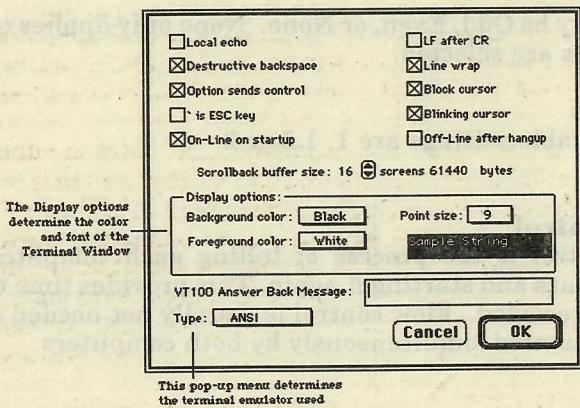
Local echo

The **Local echo** option tells MacComCenter to display all keyboard entries directly to the **Terminal Window** rather than let the remote computer echo the keystrokes back as is normal. If you cannot see what you type, turn this option on. If characters appear double (lliikkee tthhiiss) turn this option off.

Destructive backspace

This option instructs MacComCenter to erase a character when the backspace key is pressed. When this option is not selected, pressing the backspace key will move the cursor back one character but will not erase the character that may be above the cursor.

Option sends control

When this option is selected, pressing the Option key is the same as pressing the Control key. Use this feature to send a Control-C, or other Control key combination, to a remote computer.

' is ESC key

When this option is selected, pressing the ' key (located in the upper left corner of the keyboard) will cause MacComCenter to send an Escape character to the remote computer. This option is useful for keyboards that do not have an ESC key.

On-Line on startup

When this option is selected, MacComCenter will automatically go On-Line and open the **Terminal Window** when launched.

LF after CR

This option tells MacComCenter to translate all outgoing and incoming carriage returns to carriage return + line feed.

Line wrap

This option tells MacComCenter to issue a carriage return + line feed if more than 80 characters are received on a single line.

Block cursor

The default MacComCenter cursor is a block cursor. If not selected, the cursor will be an underscore.

Blinking cursor

By selecting this option, you may change the cursor to a blinking cursor.

Off-Line after hangup

When this option is selected, MacComCenter will automatically close the **Terminal Window** and go Off-Line when you select **Hang Up** from the **Data** Menu to terminate a data call.

Scrollback buffer size

This options defines the number of screens that will be stored in Scrollback memory. During an On-Line session text may pass on the screen and scroll out of view. This option sets aside memory to enable you to scroll up (back) through the text.

Display options

Background color
This option allows you to change the background color on the **Terminal Window**.

Foreground color
This option allows you to change the foreground color on the **Terminal Window**. This foreground color is the color the text will appear as.

☞ **NOTE**: *These options are disabled ("grayed out") on Macs running in black-and-white mode.*

Point size
This option allows you to change the point size of the **Terminal Window** text.

Terminal emulation type
On the bottom of the dialog is a line that specifies the current terminal emulator being used. This pop-up menu allows you to change the terminal emulator. MacComCenter supports Teletype (TTY), DEC VT100, DEC VT102, DEC VT52 and ANSI terminal emulation. Terminal emulation is the ability of MacComCenter to make your Macintosh look like a specific type of terminal to a remote computer. In performing this task MacComCenter translates the remote computers special instructions for such things as screen cursor positioning and text graphics display. For accessing bulletin boards and most public services, the TTY emulator is the proper selection.

VT100 Answer Back Message
This allows you to enter a string that will be sent to a called machine at the beginning of a data communication session when the VT100 terminal emulator is used.

File transfer setup

The **File Transfer Setup** dialog allows you to set the file transfer attributes you want MacComCenter to use. A number of check boxes are provided to turn options on or off. The **File Transfer Setup** dialog is available by selecting **File Transfer...** from the **Setup** Menu.

The ASCII transfer options
determines how the ASCII
protocol performs. It also
determines the file creator of
a TEXT file on a download

```
┌─────────────────────────────────────────────────────────────┐
│  ┌─ ASCII transfer options : ──────────────────────────────┐ │
│  │  1/60 seconds between characters:  0 ⬍   Text file creator: │QLVW│ │
│  │        1/60 second between lines:  0 ⬍              │ │
│  │  ☒ Add LF's on send                                │ │
│  │  ☒ Strip LF's on receive                           │ │
│  └────────────────────────────────────────────────────┘ │
│  ┌─ Default protocols : ──┐   MacBinary options : │ Smart MacBinary │ │
│  │  Send :  │ Xmodem (CRC) │ │                                    │
│  │  Receive : │ Xmodem (CRC) │ │        ( Cancel )  ( OK )         │
│  └────────────────────────┘                              │
└─────────────────────────────────────────────────────────────┘
```
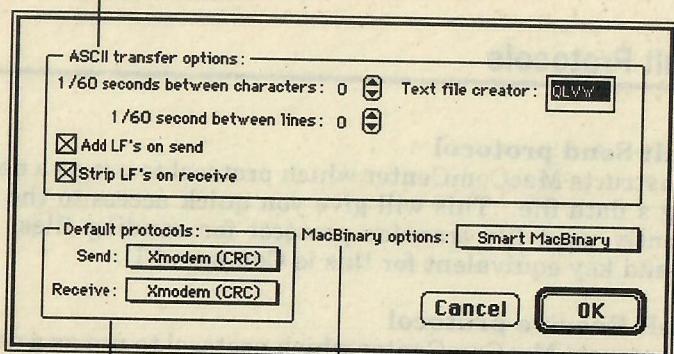
The default protocols are your
most often used protocols. These
default protocols are accessible
through the Data Menu

The MacBinary options determine
how a file is transferred

ASCII Transfer Options

1/60 seconds between character
This allows you to enter the number of seconds to wait before a character will be sent during a data communication session.

1/60 seconds between lines
This allows you to enter the number of seconds to wait before a line will be sent during a data communication session.

Text file creator
This allows you to enter the creator of a file to use as the default text editor. Default is QLVW (**QuickView**). The file creator you choose will be the application that opens up the text file when you double-click on it from the Finder.

Add LF's on send
This instructs MacComCenter to add line feeds during the sending of a file during a data file transfer.

Strip LF's on receive
This instructs MacComCenter to remove line feeds during the receiving of a file during a data file transfer.

Default Protocols

Default Send protocol
This instructs MacComCenter which protocol to use as a default during a data file. This will give you quick access to the most frequently used file transfer protocol for sending files. The command key equivalent for this is Command-U.

Default Receive protocol
This instructs MacComCenter which protocol to use as a default during a data file. This will give you quick access to the most frequently used file transfer protocol for receiving files. The command key equivalent for this is Command-I.

MacBinary options

This instructs MacComCenter which MacBinary option to use during a data file transfer. The options are Smart MacBinary, Always MacBinary, and Never MacBinary. MacBinary should be used when downloading a Macintosh file. A Macintosh file consists of two forks, or parts. Using MacBinary when sending and receiving a file will put the two forks in their proper place. MacBinary files also contain file information.

The **Tools** Menu allows you to configure the ToolBar and allows easy access to the **Fax Controller** and **QuickView**.

```
Tools
  Hide Tool Bar
  Advanced Tool Bar
  Horizontal Toolbar
  ----------------------------
  Launch Fax Controller
  Launch QuickView
```

Show/Hide ToolBar.

This is a toggled option and will show or hide the ToolBar from view.

Normal/Advanced ToolBar.

This is a toggled option and will display an advanced ToolBar with more icons or will display a simpler ToolBar with the following: **On-Line**, **Data List**, **Send Fax**, **Fax List** and **View Fax**.

Vertical/Horizontal ToolBar.

This option allows you to control how the ToolBar is displayed by MacComCenter.

Launch Fax Controller.
This option allows you to launch the **Fax Controller** from the MacComCenter application.

Launch QuickView.
This option allows you to launch **QuickView** for easy access from the MacComCenter application.
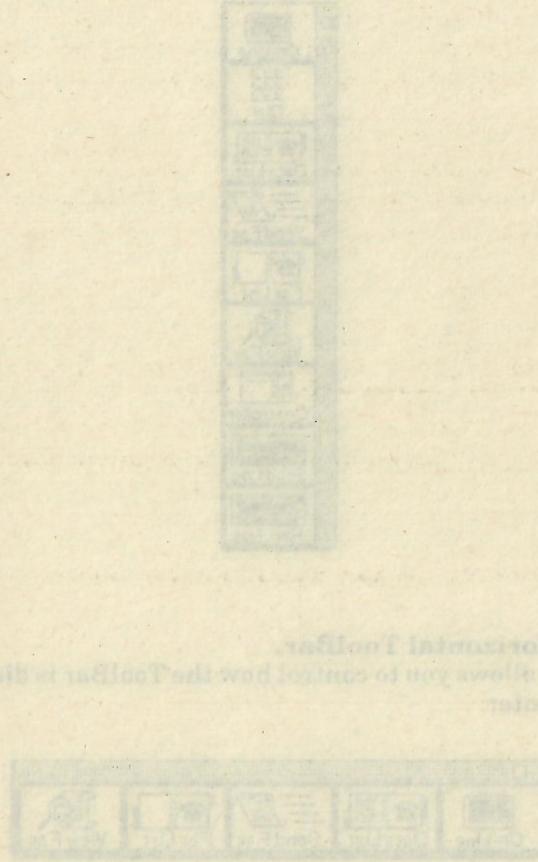
MacComCenter has several advanced features which can make your on-line communications sessions quicker and easier to manage by automating various functions.

MacComCenter can quickly connect you to your accounts on the major on-line services. Before it can do this, however, you must set up MacComCenter with the proper account information. When configured, you can connect to on-line services such as **Dow Jones**, **CompuServe**, and **GEnie** with a single click of the mouse.

Services setup

The **Services Setup** dialog allows you to specify account information for the **Dow Jones**, **CompuServe**, and **GEnie** on-line services. Choosing **Services...** from the **Setup** Menu opens the **Services Setup** dialog, which is where the actual account information is entered into MacComCenter.

```
┌─────────────────────────────────────────────────────────────┐
│  ┌ CompuServe information: ──────┐   ┌ Network numbers: ────┐ │
│  Account #: [        ]  ⊙Compunet    Compunet: [          ]  │
│                         ○Telenet                             │
│  Password: [        ]   ○Tymnet      GEnienet: [          ]  │
│  ┌ Dow Jones information: ───────┐                           │
│  Password: [        ]   ⊙Telenet      Telenet: [          ]  │
│                         ○Tymnet                              │
│  ┌ GEnie information: ───────────┐    Tymnet: [          ]   │
│    User #: [        ]                                        │
│                                                              │
│  Password: [        ]              ( Cancel )  ⟦   OK   ⟧    │
└─────────────────────────────────────────────────────────────┘
```
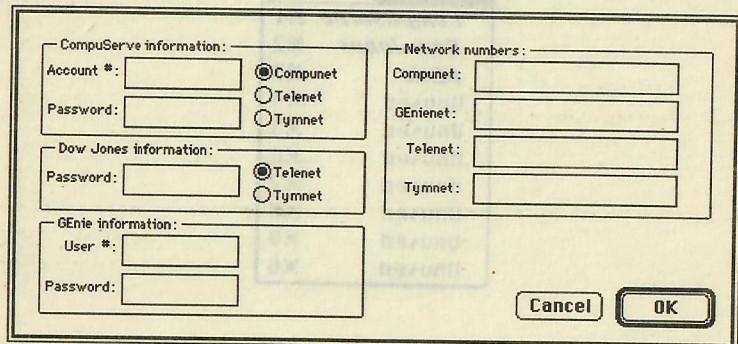
Follow the appropriate section(s) for your on-line service account(s):

CompuServe: If you will be calling CompuServe, use this section to enter your Account number and Password, and select the public network (Compunet, Telenet, or Tymnet) you want to access by entering the phone number and selecting the corresponding radio button.

Dow Jones: If you will be calling Dow Jones, use this section to enter your Password and select the public network (Compunet, Telenet, or Tymnet) you want to access by entering the phone number.

GEnie: If you will be calling GEnie, use this section to enter your User ID and Password. Do not enter the separating comma. Enter the telephone number needed to connect to GEnie in the GEnienet field.

Connecting to on-line services

Once the account information is entered, simply pull down the Data Menu and select Run Script, then selecting the appropriate on-line service will automatically dial your modem, log you in, and enter your password. You can also select the desired on-line service from the Macros Menu.

Macros	
CompuServe	⌘1
Dow Jones	⌘2
GEnie	⌘3
Unused	⌘4
Unused	⌘5
Unused	⌘6
Unused	⌘7
Unused	⌘8
Unused	⌘9
Unused	⌘0

Macro keys

The **Macros Setup** dialog allows you to define a custom meaning to the selection of command key combinations, Command-0 to Command-9. The **Macros Setup** dialog can be opened by selecting **Macros...** from the **Setup** Menu. These Macro Keys can cause a user defined literal string to be transmitted or can be used to launch a script file. The Macro Key definitions are displayed on the **Macros Setup** dialog. The ten text boxes on the **Macros Setup** dialog, allow you to enter a literal string you want transmitted when each of the command key combinations are depressed, or to specify a script file name if you want a script file launched when the assigned keys are pressed. To assign a script file, select the Script check box and select the script file from the file selection box that will appear. The text box may contain either a literal string or a script file name, but not both.

This shows the macro for each key

Select this check box to define this macro key as a script

1	CompuServe	☒ Script
2	Dow Jones	☒ Script
3	GEnie	☒ Script
4		☐ Script
5		☐ Script
6		☐ Script
7		☐ Script
8		☐ Script
9		☐ Script
0		☐ Script

Cancel   OK
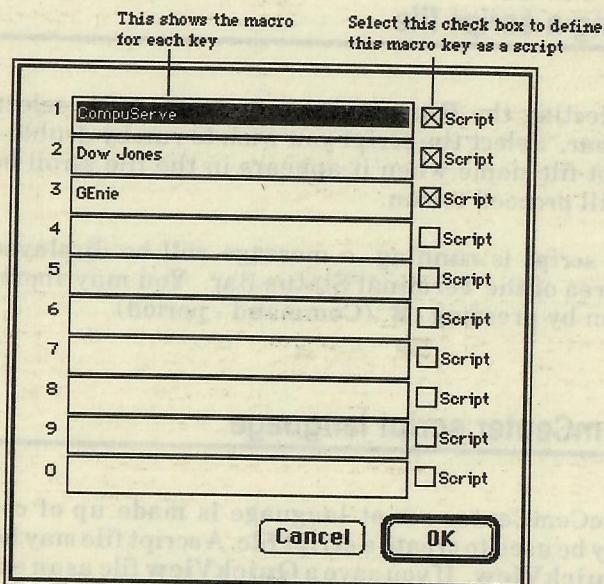
Scripts

Scripts are miniature programs within a program, and can totally automate your on-line sessions (the on-line services modules are actually script files, for example). Properly programmed, a script can call a BBS, log-on to it and automatically read your mail. This section describes how to run and write scripts; the keyword listing is given in Appendix A.

Running scripts

The **Run Script...** option under the **Data** Menu allows you to have MacComCenter execute a script file that has been created and stored on disk.

Selecting a script file

After selecting the **Run Script...** function, a file selection box will appear. Select the script you wish to run by double-clicking the script file name when it appears in the file scroll box. The script will proceed to run.

When a script is running, a message will be displayed in the status area of the Terminal Status Bar. You may abort a script execution by pressing -⌘. (Command - period)

MacComCenter script language

The MacComCenter script language is made up of commands that may be used to create a script file. A script file may be created using **QuickView**. If you save a **QuickView** file as an executable script file you can execute the script by double-clicking on the document icon from the Finder. You may also use any external editor to edit the script file but you will not be able to run the script by double-clicking on the icon from the Finder.

The commands that comprise the script language may be entered in either upper or lower case. Each line of the script may contain only one command. The commands may be indented to any point you wish to enhance readability. Blank lines may also be inserted in the script files to show breaks in sections on the script statements.

You may include comments in the script file by starting the comment with "/*" and ending the comment with "*/". For example,

/* This is a sample comment */

When sending strings to a remote computer, a string may be defined to include a literal value, a carriage return character or an ASCII character represented by its decimal value. Literal character strings must be enclosed by double quotes. A return character is defined by including a '\r' in the command line. An ASCII character is defined by including a '\xHH' in the command line, where HH is the hexadecimal value of the ASCII character (see Appendix C for the ASCII Character Table). For example, to send a Control-C to a remote computer the literal string would be:

Out("\x03");

The script must begin with the "main( )" function. This is the function that is first called during execution. It must be followed by a open curly brace "{" and the function must end in a closed curly brace "}". The actual script commands go in the lines between the curly braces and are followed by semicolons ";". A simple script file would look something like this:

```
/* Sample Script 1 */
main( )
{
        Script Command Line 1;
        Script Command Line 2;
}
```

Writing a sample script file

The best way to learn is by doing, so lets create a script which will automate logging in to the **American E-Mail** BBS (This script assumes that you already have an account. If you don't, call **American E-Mail** to set one up, taking note of your User ID and password.)

When writing a script, thought should be given to the steps you would like the script to perform. In the case of logging into **American E-Mail**, a script must do the following:

1. Dial the telephone number
2. Wait for the prompt to enter the User ID
3. Type out the User ID
4. Wait for the prompt to enter the password
5. Type out the password
6. Pass control to the keyboard to continue the on-line session.

The first two lines of the script should be:

> **main( )**
> **{**

You can put comments before this if you wish. Reviewing the list of commands, it can be seen that only three commands are needed in this script: Dial, In, and Out. The script must dial **American E-Mail** first, so the third line would be:

> **Dial("17143625822");**

The actual script instructions may be typed with one tab stop before it in order to indent each line for easy reading later on.

Next, the script must wait for the User ID prompt, which is

Otherwise type 'new':

It would also be nice if after a certain amount of time of nothing happening while waiting for the prompt, the script would pass control back to the user. The In command can do all this, so the fourth line should be:

> **In("'new':",30);**

This will wait for a the prompt for 30 seconds before returning control to the keyboard.

After sensing the prompt, the script must type out the User ID, which calls for the Out command. The next script line should be:

Out("Your ID\r");

Your ID should be replaced with whatever the User ID of the account actually is. The \r tells the script to send out a carriage return, as if the enter/return key is pressed.

The prompt for the account password is

Enter your password:

so the next line should be:

In("password:",30);

To type the password, the final script line should be:

Out("Your PW\r");

where **Your PW** is your actual account password.

To pass control back to the keyboard once the automation is finished, the last line should be a closing curly brace:

The script file should now look like this:

```
/*American E-mail Script */

main()
{
        Dial("17143625822");
        In("'new':",30);
        Out("Your ID\r");
        In("password:",30);
        Out("Your PW\r");
}
```

Save this file as an executable script with the file name "American E-Mail" in the **MacComCenter Folder**.

American E-Mail

Congratulations, your first script is complete!!!

Advanced scripting features

Most of the language features in the following sections are for those users with some programming experience or are familiar with other script languages. These features are not needed to write simple scripts like the example above.

Special characters

Sometimes a script must send out characters that are not easy to type in. For example, what if the computer being dialed wanted a NULL character or a Control-C The script language has a provision for this, and in fact one has already been used in the **American E-Mail** script (recall '\r' for a carriage return). The following codes are the most commonly used:

Line Feed	\n
Tab	\t
Backspace	\b
Return	\r
Null	\0
Backslash	\\
Any	\x(2 hexadecimal digits)

For control characters, the ASCII Character Table should be consulted. A Control-C is 03 in hex, so a Control-C can be sent out with a \x03.

Variables

The MacComCenter scripting language can accommodate variables for loops or repeated printing in the same manner that they are used in C. In MacComCenter, there may be either character or integer variables, and they are initialized in the following manner:

Setting character: Char c = 'x';
Setting integer: Int n = 123;

Expressions

Logical or mathematical expressions, when used with integer variables can actually put decision making into MacComCenter scripts:

Logical Or:	| |
Logical And:	&&
Equal:	==
Not Equal:	!=
Less than:	<
Less than or equal to:	<=
Greater than:	>
Greater than or equal to:	>=
Assignment:	=
Add:	+
Subtract:	-
Multiply: :	*
Divide:	/

All expressions are evaluated left to right, except for the assignment expression.

Functions

A function is a subroutine used to perform a specific task. Functions can be useful if the function is called repeatedly. Functions help break up a script into logical units; they are easier to read as well. MacComCenter script functions allow functions to have a return value and accept parameters. An example function called by the main function follows:

```
main ( )
{
        int returnValue = MyExampleFunction(1, 2);
}

        int MyExampleFunction(int firstValue, int
        secondValue)
{
        return (firstValue + secondValue);
}
```

This example function takes two integers as parameters and returns the sum of them.

Statements

The MacComCenter scripting language provides statements that provide control flow during execution. The statements are as follows:

if *(expression) statement1*

if *(expression) statement1* **else** *statement2*

These first two statements will execute *statement1* if *expression* is TRUE. The second statement will execute *statement2* if *expression* is FALSE.

while *(expression) statement*

This while clause will execute *statement* while *expression* is TRUE.

for *(expression1; expression2; expression3) statement*

This for loop will execute *statement* while *expression2* is TRUE. The *expression1* value is set when the statement is first entered. The *expression3* is called after each loop.

Scripting Commands

The MacComCenter script language is comprised of the following commands.

Baud (int BaudRate)

Description — Sets the baud rate

Return value — Returns TRUE if BaudRate valid, otherwise FALSE.

Example:
```
main()
{
        Echo("Changing the baud rate to
        2400bps.\r\n");
        Baud(2400);
}
```

CompuAcct ( )

Description — Returns the CompuServe account number string

Return value — Returns a pointer to the string in your services setup for the Compuserve account number.

Example:
```
main()
{
        char number[50];
        Echo("Copying info into number.\r\n");
        StrCpy(CompuAcct(), number);
}
```

CompuPass ( )

Description — Returns the CompuServe password string

Return value — Returns a pointer to the string in your services setup for the Compuserve password.

Example: main()
                 {
                          char number[50];
                          echo("Copying info into number.\r\n");
                          StrCpy(CompuPass(), number);
                 }

Cls ( )

Description — Clears the screen.

Return value — None.

Example: main()
                 {
                          Echo("Clearing the screen.\r\n");
                          Cls();
                 }

CompuNetwork ( )

Description — Returns the CompuServe network

Return value — Returns an integer corresponding to the network selected in your services setup:
0 = Compunet
1 = Telenet
2 = Tymnet;

Example: main()
                 {
                          int network;
                          Echo("GettingCompuserve
                          network.\r\n");
                          network = CompuNetwork();
                 }

CompuPhone ( )

Description — Returns the CompuServe phone number string

Return value — Returns a pointer to the string in your services setup for the Compuserve number.

Example: main()
                 {
                          char source[30] = "This is the TEXT", dest[30];

```
            Echo("Copying the word TEXT to dest.\r\n");
            Copy(&source[12], dest, 4);
     }
```

CurrentBaud ( )

Description — Returns the current baud rate

Return value — Returns an integer corresponding to the current baud rate.

Example:
```
            main()
            {
                    int baud;
                    Echo("Getting baud rate.\r\n");
                    baud = CurrentBaud();
            }
```

Data (int DataBits)

Description — Sets the number of data bits.

Return value — Returns TRUE if data bits are valid, otherwise FALSE.

Example:
```
            main()
            {
                    Echo("Changing the data bits to
                    eight.\r\n");
                    Data(8);
            }
```

Dial (char *Number)

Description — Dials a number.

Return value — Returns FALSE if invalid number or dial attempt failed, otherwise returns TRUE.

Example:
```
            main()
            {
                    Echo("Dialing 555-1212.\r\n");
                    Dial("555-1212");
            }
```

DowNetwork ( )

Description — Returns the Dow Jones network

Return value — Returns an integer corresponding to the network selected in your services setup:
0 = Telenet
1 = Tymnet

Example:

```
main()
{
        int network;
        Echo("Getting Dow Jones network.\r\n");
        network = DowNetwork();
}
```

DowPass ( )

Description — Returns the Dow Jones password string

Return value — Returns a pointer to the string in your services setup for the Dow Jones password.

Example:

```
main()
{
        char number[50];
        Echo("Copying info into number.\r\n");
        StrCpy(DowPass(), number);
}
```

*Echo (char *string)*

Description — Sends string to the screen.

Return value — None.

Example:

```
main()
{
        char string[30] = "Hello, world.\r\n");
        Echo(string);
}
```

GeniePass ( )

Description — Returns the Genie password string

Return value — Returns a pointer to the string in your services setup for the Genie password.

Example:
```
main()
{
        char number[50];
        Echo("Copying info into number.\r\n");
        StrCpy(GeniePass(), number);
}
```

GeniePhone ( )

Description — Returns the Genie phone number string

Return value — Returns a pointer to the string in your services setup for the Genie number.

Example:
```
main()
{
        char number[50];
        Echo("Copying info into number.\r\n");
        StrCpy(GeniePhone(), number);
}
```

GenieUser ( )

Description — Returns the Genie user name string

Return value — Returns a pointer to the string in your services setup for the Genie account number.

Example:
```
main()
{
        char number[50];
        Echo("Copying info into number.\r\n");
        StrCpy(GenieUser(), number);
}
```

*In (char *string [, int seconds])*

Description — If seconds are specified, the function will wait for seconds until string is received by the modem; otherwise, the next character coming over the modem will be appended to the string.

Return value — Returns FALSE if timed out, otherwise returns TRUE.

Example:
```
main()
{
        char string[50];
        Echo("Adding a character to string.\r\n");
        In(string);
}
```

LocalEcho (int ON_or_OFF)

Description — Turns local echo on or off.

Return value — Returns TRUE if ON or OFF valid, otherwise FALSE.

Example:
```
main()
{
        Echo("Turning local echo on.\r\n");
        LocalEcho(1);
}
```

*Out (char *string)*

Description — Sends string to the modem.

Return value — None.

Example:
```
main()
{
        char string[30] = "Hello, world.\r\n";
        Out(string);
}
```

Parity (char N)

Description — Sets the parity

Return value — Returns FALSE if invalid parity, otherwise TRUE.

Example: main()
      {
                  Echo("Setting parity to even.\r\n");
                  Parity(E);
      }

*RtsCts (char *ON_or_OFF)*

Description — Sets hardware flow control.

Return value — TRUE if set was accomplished, otherwise FALSE.

Example: main()
      {
                  Echo("Setting hardware flow
                  control.\r\n");
                  RtsCts("ON");
      }

*Stop (char *StopBits)*

Description — Sets the stop bits. Valid parameters include: "1", "1.5", and "2".

Return value — Returns FALSE if invalid stop bits, otherwise TRUE.

Example: main()
      {
                  Echo("Setting stop bits to one.\r\n");
                  Stop("1");
      }

StrCpy (char *String1, char *String2)

Description — Copies String1 to String2, including the terminating null character.

Return value — The function returns a pointer to string2.

Example:
```
main()
{
        char String1[20] = "STRING";
        char String2[20];
        Echo("Copying String1 to String2.\r\n");
        StrCpy(String1, String2);
}
```

StrLen (char *string)

Description — The StrLen function returns the length in bytes of string, not including the terminating null character ('\0').

Return value — The StrLen function returns the string length.

Example:
```
main()
{
        int i;
        char string[20] = "STRING";
        Echo("Getting length of string.\r\n");
        i = StrLen(string);
}
```

TelenetPhone ( )

Description — Returns the Telenet phone number string

Return value — Returns a pointer to the string in your services setup for the Telenet number.

Example:
```
main()
{
        char number[50];
        Echo("Copying info into number.\r\n");
        StrCpy(TelenetPhone(), number);
}
```

TymnetPhone ( )

Description — Returns the Tymnet phone number string

Return value — Returns a pointer to the string in your services setup for the Tymnet number.

Example:
```
main()
{
        char number[50];
        Echo("Copying info into number.\r\n");
        StrCpy(TymnetPhone(), number);
}
```

Wait (int NumSeconds)

Description — Pauses NumSeconds number of seconds.

Return value — Always returns TRUE.

Example:
```
main()
{
        Echo("Waiting ten seconds.\r\n");
        Wait(10);
}
```

*XonXoff (char *ON_or_OFF)*

Description — Sets software flow control.

Return value — TRUE if set was accomplished, otherwise FALSE.

Example:
```
main()
{
        Echo("Setting software flow
        control.\r\n");
        XonXoff("ON");
}
```

Appendix B
Terminal Emulation Keys

VT52/100/102 Key Name	Macintosh Key
PF1	Option-F1
PF2	Option-F2
PF3	Option-F3
PF4	Option-F4
Shift-Print (Print Screen)	Shift Option-F1
Ctrl-Print (Autoprint)	Shift Option-F2
Cursor Up	Cursor Up
Cursor Down	Cursor Down
Cursor Left	Cursor Left
Cursor Right	Cursor Right
Application Keypad Mode 0	Keypad 0
Application Keypad Mode 1	Keypad 1
Application Keypad Mode 2	Keypad 2
Application Keypad Mode 3	Keypad 3
Application Keypad Mode 4	Keypad 4
Application Keypad Mode 5	Keypad 5
Application Keypad Mode 6	Keypad 6
Application Keypad Mode 7	Keypad 7
Application Keypad Mode 8	Keypad 8
Application Keypad Mode 9	Keypad 9
Application Keypad Mode (Minus)	Keypad -
Application Keypad Mode (Comma)	Keypad *
Application Keypad Mode (Period)	Keypad .
Application Keypad Mode (Enter)	Keypad +

The following table lists the ASCII character set and each character's corresponding decimal and hexadecimal code equivalent. This chart is often useful for creating scripts and as a reference.

CTRL	CODE	DEC	HEX
@	NUL	0	00
A	SOH	1	01
B	STX	2	02
C	ETX	3	03
D	EOT	4	04
E	ENQ	5	05
F	ACK	6	06
G	BEL	7	07
H	BS	8	08
I	HT	9	09
J	LF	10	0A
K	VT	11	0B
L	FF	12	0C
M	CR	13	0D
N	SO	14	0E
O	SI	15	0F
P	DLE	16	10
Q	DC1	17	11
R	DC2	18	12
S	DC3	19	13
T	DC4	20	14
U	NAK	21	15
V	SYN	22	16
W	ETB	23	17
X	CAN	24	18
Y	EM	25	19
Z	SUB	26	1A
[	ESC	27	1B
\	FS	28	1C
]	GS	29	1D
^	RS	30	1E
_	US	31	1F

CODE	DEC	HEX
SP	32	20
!	33	21
"	34	22
#	35	23
$	36	24
%	37	25
&	38	26
'	39	27
(	40	28
)	41	29
*	42	2A
+	43	2B
,	44	2C
-	45	2D
.	46	2E
/	47	2F
0	48	30
1	49	31
2	50	32
3	51	33
4	52	34
5	53	35
6	54	36
7	55	37
8	56	38
9	57	39
:	58	3A
;	59	3B
<	60	3C
=	61	3D
>	62	3E
?	63	3F

CODE	DEC	HEX
@	64	40
A	65	41
B	66	42
C	67	43
D	68	44
E	69	45
F	70	46
G	71	47
H	72	48
I	73	49
J	74	4A
K	75	4B
L	76	4C
M	77	4D
N	78	4E
O	79	4F
P	80	50
Q	81	51
R	82	52
S	83	53
T	84	54
U	85	55
V	86	56
W	87	57
X	88	58
Y	89	59
Z	90	5A
[	91	5B
\	92	5C
]	93	5D
^	94	5E
_	95	5F

CODE	DEC	HEX
	96	60
a	97	61
b	98	62
c	99	63
d	100	64
e	101	65
f	102	66
g	103	67
h	104	68
i	105	69
j	106	6A
k	107	6B
l	108	6C
m	109	6D
n	110	6E
o	111	6F
p	112	70
q	113	71
r	114	72
s	115	73
t	116	74
u	117	75
v	118	76
w	119	77
x	120	78
y	121	79
z	122	7A
{	123	7B
|	124	7C
}	125	7D
~	126	7E
DEL	127	7F

Appendix D
AT Command Set Summary

Most modems used with Macintosh computers implement the AT Command Set as a method of issuing commands to the modem. The actual implementation by your modem's manufacturer is documented in the hardware manual included with your modem. The chart below is a summary of many of the more commonly used AT commands. Many users may never find a need to use this command set, as MacComCenter does much of the work for you.

Command	Description
AT	Attention command and precedes command line
A/	Repeat preceding command
A	Answer call immediately
DT	Dial Touch Tone mode
DP	Dial Pulse mode
E	Command Echo disabled
E1	Command Echo enabled
H	Hangup (on-hook)
H1	Off hook
I	Output product code to Mac
L	Speaker volume (L0, L1, L2, L3)
M0	Speaker off
M1	Speaker on until Carrier Detect
M2	Speaker always on
M3	Speaker on from dial to Carrier Detect
O	Return to on-line communications
O1	Return to on-line communications and retrain
Q	Send result code messages
Q1	Do not send result code messages
Sr?	Read and display contents of register (r)
Sr=n	Set register (r) to value (n), ATS0=1, answer phone on first ring
V	Result code messages sent in numeric format
V1	Result code messages sent in English word format
X	Extended status mode
Y	Long space disconnect
Z	Reset and initialize modem
+++	Escape code from on-line to command state

Appendix E
Troubleshooting

General/Data communication troubleshooting

You cannot hear the modem.

- Add M1L3 to the end of your Initialization String in the **Modem Setup** dialog.

When you type a character in the Terminal Window, it appears twice or not at all.

- MacComCenter has its **Local Echo** feature turned on and the modem's echo feature is also turned on. If the system you are calling echoes your typed characters, turn off **Local Echo** in the **Terminal Setup** dialog.

Your modem or fax/modem disconnects while communicating remotely.

- If your connection is at 19200 baud or greater and have hardware flow control On. Make sure you have &D0 set in your initialization string. If you have &D2 set in your initialization string, replace it with &D0.

- The other side has hung up.

- Your telephone line may have call waiting and a call has come in. It can be disabled in the **Modem Setup** dialog by putting the disable call waiting AT command in your Initialization string. If this does not work, contact your local telephone company.

- Someone may be picking up an extension connected to the line your modem or fax/modem is using.

- You are using an MNP 5 or v.42bis modem and the other modem does not support MNP 5 or v.42bis. Refer to your modem manual and disable them.

- Your line settings do not match those of the other communicating device.

Fax troubleshooting

MacComCenter is not able to connect or receive faxes from remote fax sources.

- Ensure the **Fax Manager** is loaded and **Fax Receiving** is enabled.

- Your fax/modem may not be compatible with the specific brand of fax that you are connected with. Contact the modem manufacturer to determine if there is a known problem.

- Some fax machines cannot handle certain Fax IDs. For example, some fax machines require only numbers as the Fax ID, while others require only upper case or no spaces. Your Fax ID can be changed in the **Fax Setup** dialog.

MacComCenter connects to the remote fax machine, but none of the document pages are sent or are blank.

- If you have scheduled the fax to be sent, you may have deleted the fax document before it was sent.

- You may be trying to send a fax from the floppy disk. This is not recommended, since disk access times are longer when files are on the floppy drive. Copy the file to your hard disk and try again.

Faxes are being sent at a lower baud rate than the rated speed of the fax/modem or the specified Maximum baud rate in the Send Fax dialog.

- Your fax/modem can't connect at the faster baud rate. This can be caused by poor line quality, speed limitations of the receiving fax machine, or a hardware incompatibility. This is not necessarily indicative of any problem with your fax/modem.

When you view a received fax, there appear to be missing lines, garbage, or "bar code".

- Your fax/modem may be incompatible with the sending hardware.

- There may have been a bad telephone connection for the call.

- Your fax modem may be improperly installed or damaged.

Error messages

The Fax Manager could not find your fax/modem on the Modem Port. Fax receiving has been turned off.

- During Macintosh startup, the **Fax Manager** is loaded automatically to receive any faxes that may arrive during the time that the computer is in use. This message indicates that the modem may not be connected to the correct Macintosh Serial port or the modem is not turned on or is not functioning correctly.

- Make sure the modem is turned on and connected to correct Serial port at the rear of the Macintosh.

Modem is not responding to initialization string.

- During MacComCenter program execution, Hayes modem initialization commands are sent to the modem to prepare it for data/fax communications. This message indicates that the modem may not be connected to the Macintosh modem port or the modem is not turned on or is not functioning correctly.

- Make sure the modem is turned on and connected to correct modem port at the rear of the Macintosh.

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MacComCenter
USER REGISTRATION FORM

I have read and understand the SMITH MICRO
SOFTWARE, INC. License Agreement and agree to abide by
its terms.

Customer Signature   Date:

Name:

Address:

City/State/Zip:

Fax/Modem make-model:

Mail today to ensure notification of updates and new products
to:
Smith Micro Software • 51 Columbia • Aliso Viejo, CA 92656

- -

BACKUP DISK ORDER FORM

Please send a backup copy of MacComCenter. My check for
$15.00 (US) plus $3.00 shipping and handling is enclosed.
California residents add $1.16 sales tax.

Name:

Address:

City/State/Zip:

Fax/Modem make-model:

                                  Please allow 2 weeks for processing